

Four Dollars

T H E

Fall 1987

BROOKINGS

R E V I E W

*Paul B. Stares on ASAT Weapons:
Why Restraint Makes Sense*

*William W. Kaufmann on NATO:
Who Is Conning the Alliance?*

*Lloyd N. Cutler, James L. Sundquist,
and Paul E. Peterson
on Constitutional Reform*

*Kathryn Mohrman on Unintended Consequences
of Federal Student Aid Policies*

*Robert S. Eckley on Liberal Arts Colleges:
Can They Compete?*

Board of Trustees

Louis W. Cabot

Chairman

Ralph S. Saul

Vice Chairman

Chairman, Executive Committee

Chairman, Development Committee

Samuel H. Armacost

J. David Barnes

Rex J. Bates

A. W. Clausen

William T. Coleman, Jr.

Richard G. Darman

Thomas R. Donahue

Charles W. Duncan, Jr.

Walter Y. Elisha

Robert F. Erburu

Roberto C. Goizueta

Robert D. Haas

Philip M. Hawley

Roy M. Huffington

B. R. Inman

Vernon E. Jordan, Jr.

James A. Joseph

James T. Lynn

Bruce K. MacLaury

Donald F. McHenry

Mary Patterson McPherson

Maconda B. O'Connor

Donald S. Perkins

J. Woodward Redmond

James D. Robinson III

B. Francis Saul II

Robert V. Roosa

Henry B. Schacht

Howard R. Swearer

Morris Tanenbaum

James D. Wolfensohn

Ezra K. Zilkha

Charles J. Zwick

Honorary Trustees

Vincent M. Barnett, Jr.

Barton M. Biggs

Eugene R. Black

Robert D. Calkins

Edward W. Carter

Frank T. Cary

Lloyd N. Cutler

Bruce B. Dayton

Douglas Dillon

Huntington Harris

Andrew Heiskell

Roger W. Heyns

John E. Lockwood

William McC. Martin, Jr.

Robert S. McNamara

Arjay Miller

Charles W. Robinson

H. Chapman Rose

Gerard C. Smith

Robert Brookings Smith

Sydney Stein, Jr.

Phyllis A. Wallace

THE BROOKINGS INSTITUTION is a private nonprofit organization devoted to research, education, and publication on important issues of domestic and foreign policy. Its principal purpose is to bring knowledge to bear on the current and emerging policy problems facing the American people. Brookings functions as an independent analyst and critic, committed to publishing its research findings for the information of the public. In its educational activities, it works to bridge the gap between scholarship and policymaking, bringing new information and analyses to the attention of decisionmakers in the public and private sectors. Its activities are carried out through three research programs (Economic Studies, Governmental Studies, Foreign Policy Studies), a Center for Public Policy Education, a Social Science Computation Center, and a Publications Program.

The Institution was incorporated in 1927 to merge the Institute for Government Research, founded in 1916 as the first private organization devoted to public policy issues at the national level; the Institute of Economics, established in 1922 to study economic problems; and the Robert Brookings Graduate School of Economics and Government, organized in 1924 as a pioneering experiment in training for public service. The consolidated institution was named in honor of Robert Somers Brookings (1850–1932), a St. Louis businessman whose leadership shaped the earlier organizations.

Brookings receives financial support from philanthropic foundations, corporations, and private individuals; it also draws funding for its activities from endowment income, conference fees, sales of publications, and charges for computer services. In addition, the Institution undertakes some unclassified government contract studies, reserving the right to publish its findings.

A board of trustees is responsible for general supervision of the Institution, approval of fields of investigation, and safeguarding of the Institution's independence. The president is the chief administrative officer, responsible for formulating and coordinating policies, recommending projects, and selecting the staff. In recent years the senior fellows and research associates have numbered about fifty men and women with varied backgrounds in the academic world, government, or both.

The officers and staff conduct a continual review of the Institution's fields of interest. Discussions with government officials, members of Congress, business leaders, foundation officers, and other scholars help to identify issues for study. Subjects are selected for study on the basis of their significance and timeliness, the adequacy of information and techniques of investigation, the availability of personnel and funds, and the relationship of the projects to the Institution's objectives. Each Brookings study is offered as a complete scholarly treatment of a subject worthy of public consideration; the Institution itself does not take positions on policy issues.

T H E
BROOKINGS
R E V I E W

Fall 1987 Vol. 5, No. 4

3 ASAT Weapons: Why Restraint Makes Sense

Paul B. Stares

10 Who Is Conning the Alliance?

William W. Kaufmann

18 Restoring Effective Government: A Conversation on Constitutional Reform

Lloyd N. Cutler, James L. Sundquist, and Paul E. Peterson

24 Unintended Consequences of Federal Student Aid Policies

Kathryn Mohrman

31 Liberal Arts Colleges: Can They Compete?

Robert S. Eckley

38 New Publications

Richard K. Betts on nuclear threats; William W. Kaufmann on restructuring the Navy's size and strategy; Joshua M. Epstein on the fiscal 1988 defense budget; Lincoln Gordon on Western relations with Eastern Europe; Clair Brown and Joseph A. Pechman on sex discrimination in the workplace; Ralph C. Bryant on international financial intermediation; Barry P. Bosworth, Andrew S. Carron, and Elisabeth H. Rhyne on the economics of federal loan programs; and Robert M. Stern, Philip H. Trezise, and John Whalley on the prospects of a free-trade agreement between the United States and Canada.

Brookings Books

The Economics of Federal Credit Programs

Barry P. Bosworth, Andrew S. Carron, and Elisabeth H. Rhyne. 1987/\$9.95 paper/\$26.95 cloth

Gender in the Workplace

Clair Brown and Joseph A. Pechman, editors. 1987/\$12.95 paper/\$32.95 cloth

Eroding Empire: Western Relations with Eastern Europe

Lincoln Gordon. 1987/\$11.95 paper/\$31.95 cloth

Nuclear Blackmail and Nuclear Balance

Richard K. Betts. 1987/\$10.95 paper/\$28.95 cloth

Space and National Security

Paul B. Stares. 1987/\$10.95 paper/\$28.95 cloth

A Thoroughly Efficient Navy

William W. Kaufmann. 1987/\$8.95 paper

The 1988 Defense Budget

Joshua M. Epstein. 1987/\$8.95 paper

Perspectives on a U.S.-Canadian Free Trade Agreement

Robert M. Stern, Philip H. Trezise, and John Whalley, editors. 1987/\$12.95 paper/\$32.95 cloth

Targeting the Computer: Government Support and International Competition

Kenneth Flamm. 1987/\$11.95 paper/\$31.95 cloth

The Brookings Review (ISSN 0745-1253) is published quarterly by the Brookings Institution, 1775 Massachusetts Avenue, N.W., Washington, D.C. 20036. Second-class postage paid at Washington, D.C. Copyright © 1987 by the Brookings Institution. All rights reserved.

President: Bruce K. MacLaury

Vice President-External Affairs:

John M. Hills

Director of Publications:

Robert L. Faherty

The Brookings Review

Editor: Martha V. Gottron

Production Staff:

Vickie L. Baily

C. Elizabeth Warner

Myles Weber

Proofreader:

Michael L. Pleasants

Designed by Meadows & Wiser

Second class postage paid at Washington, D.C.

USPS I.D. No. 14209; Publication No. 551640.

Subscription rates:

one year \$15 (\$20 foreign);

two years \$27 (\$37 foreign).

Postmaster: send address changes to:

The Brookings Review

1775 Massachusetts Avenue, N.W.

Washington, D.C. 20036

U.S. newsstand distribution by Four Star News Distributors, Inc., 31-17 12th Street, Long Island City, New York 11106.

No. Copies	Author	Title	Price
			\$

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Postage and Handling **3.00**

Total \$ _____

_____ Payment enclosed Bill to my _____ MasterCard _____ VISA

_____ Exp. date _____

Signature _____ Phone # _____

Name _____

Address _____

City _____ State _____ Zip _____

Mail to: Cashier's Office
The Brookings Institution
1775 Massachusetts Avenue, N.W.
Washington, D.C. 20036

XREV54

ASAT Weapons: Why Restraint Makes Sense

Paul B. Stares

PERHAPS MORE now than at any previous time, the fate of the U.S. antisatellite (ASAT) program hangs in the balance. The reason: Congress is poised to renew a moratorium that for the fourth straight year would impose strict limits on the testing of an air-launched missile designed to attack Soviet satellites. Although some testing may be permitted against points in space, as it has been in the past, it would offer little in the way of realistic experience for the program to proceed efficiently. In fact, the continuation of the moratorium could convince the Air Force to restructure the program entirely or even cancel it outright. It is therefore not surprising that President Reagan has called 1987 the "year of decision" for the ASAT program.

Besides misgivings about the rising costs of the program, which with an estimated price tag of over \$4 billion is not cheap by any standard, many members of Congress are concerned about the likely consequences of further ASAT testing and deployment. In particular they worry that the Soviets will respond by developing highly effective ASAT systems that will place valuable U.S. space assets at risk. The possession of weapons capable of disabling vital early warning and communication satellites could also add dangerous uncertainties to superpower relations during a severe crisis. For all these reasons many in Congress support negotiation of an arms control agreement that effectively prohibits or at least curbs the development of ASAT weapons.

In contrast, the Reagan administration continues to insist that additional testing and eventual deployment of the U.S. ASAT system known as the Air-Launched Miniature Vehicle (ALMV) is essential to national security. Consisting in essence of a heat-seeking missile launched from an F-15 fighter, the ALMV is designed to home in on the target satellite and destroy it by force of impact. With unconstrained testing the U.S. Air Force believes this ASAT system can be deployed by the early 1990s.

At the same time, the administration believes ASAT arms control to be both undesirable and infeasible, principally because of the unavoidable presence of what the Pentagon terms "residual" ASAT devices, weapons that were not designed specifically to attack satellites but have an inherent capacity to do so. The most common examples are ICBMs, antiballistic missile systems, electronic jammers, and experimental lasers. Such weapons would be difficult if not impossible to include in any negotiation aimed at limiting "dedicated" ASAT systems. Their potential conversion to the ASAT mission would be hard to verify, while their use in wartime could not be precluded.

The president's commitment to the Strategic Defense Initiative (SDI), or "Star Wars" program as it is more commonly known, has hardened administration resolve on the ASAT issue still further. Because the techniques for intercepting satellites and missiles in space are very similar, constraints on ASAT weaponry

Paul B. Stares is a research associate in the Brookings Foreign Policy Studies program and the author of Space and National Security, from which this article is drawn.

*"In short, the United States
has an ASAT weapon
that Congress
does not want deployed
and that the White House
does not want canceled."*

could severely inhibit ballistic missile defense research.

In short, the United States has an ASAT weapon that Congress does not want deployed and that the White House does not want canceled. It is appropriate, therefore, to review the respective arguments of each side and consider a prudent way to resolve the current impasse.

Does the United States Really Need an ASAT System?

Administration officials state three rationales for a U.S. ASAT system. They believe it is required to redress the current imbalance in U.S.-Soviet ASAT capabilities, to deter Soviet attacks on U.S. satellites, and to counter the threat posed by Soviet space systems.

The Soviets currently possess the world's only deployed ASAT system. The Soviet satellite interceptor is launched by a large liquid-fueled SL-11 rocket into the same orbital plane as the target satellite. The interceptor revolves around the earth once or twice while ground controllers maneuver it into the vicinity of the target. A radar or infrared guidance system then draws the interceptor still closer to its prey, whereupon an explosive charge is detonated, sending a cloud of shrapnel to disable the target. Between 1968 when the interceptor system was first tested, and 1983 when they announced a moratorium on further testing, the Soviets conducted at least 20 tests in space, of which half are believed to have been successful. The last test occurred more than five years ago.

Although the Pentagon believes that the Soviet ASAT represents a potent threat, many Western experts question its operational reliability and effectiveness. On the basis of its test performance, the Soviet ASAT appears capable of attacking only those U.S. satellites in low earth orbit (less than 5,000 kilometers), which leaves the vital communication and early warning space systems beyond its reach. It also does not appear to be configured for a high intensity ASAT campaign. The U.S. Defense Department has reported that only two launch pads are dedicated to the Soviet ASAT mission. Since the interceptor vehicle has to be

launched into the same orbit as the target, it must wait for the earth's rotation to bring the launch site under the target's orbital path. Thus the number of intercept opportunities each day against any given satellite is limited. Although important U.S. reconnaissance satellites are nevertheless exposed to attack, the use of decoys, emergency maneuvering systems, and warning devices can reduce their vulnerability substantially. Moreover, if the Soviets maintain their unilateral moratorium on ASAT testing, confidence in its operational effectiveness will surely diminish over time.

The next issue is whether the United States could deter Soviet attacks on U.S. satellites by threatening to respond in kind. A necessary prerequisite for successful deterrence is that the Soviets value the services of their satellites more than they value denying the same benefits to the United States. Otherwise the threatened retaliation against Soviet space systems would not be a compelling sanction in wartime. Given the level of effort and investment they make to maintain their military space program, the Soviets clearly value the support that satellites provide to their armed forces. Even though, as the U.S. Joint Chiefs of Staff contend, the Soviet Union on balance does not rely as heavily on space systems as the United States and therefore does not have as much to lose in the event of an antisatellite exchange, it would rather not jeopardize key space assets by inviting U.S. ASAT retaliation. Unless the value of satellites becomes very asymmetrical in the United States' favor, the presence of a U.S. ASAT system would most likely deter Soviet ASAT attacks.

Although this argument supports the feasibility of deterrence in space, it is only valid if there is something meaningful to deter. If the Soviets continue to observe their testing moratorium, and the United States takes prudent measures to neutralize the threat that the existing Soviet ASAT system poses, then the requirement for an equivalent U.S. capability — on the grounds of deterrence alone — diminishes. Should the Soviet Union dismantle its ASAT system, as it has offered to do in exchange for a similar U.S. concession, then the requirement for a U.S. ASAT deterrent would decrease still further. While nuclear-tipped ballistic missiles could always be used against satellites, the presence of their U.S. counterparts would provide a deterrent if the likely collateral damage to friendly satellites from their use did not.

That leaves the final argument: Is a U.S. ASAT capability needed to counter the indirect threat that certain Soviet satellites — notably those used to detect, track, and target naval forces — pose to U.S. military operations? In certain conflict situations the United States could find an ASAT capability of some use, although these instances appear confined to conflicts in which both superpowers are engaged. ASAT attacks to help warring client states in the Third World would provide marginal military benefits, if any, and only at the considerable risk of widening and escalating the war. In those situations in which U.S. ASAT attacks might be useful, such as large scale conventional conflicts in the Persian Gulf or Europe, the benefits may be short-lived at best and counterproductive at worst. Short of destroying the USSR's launch facilities, the United States would still have to contend with the Soviet Union's much greater capacity to replace satellites at short notice. Furthermore, unless the Soviets had already initiated an ASAT

campaign, the United States would risk provoking retaliatory attacks against its more valuable space assets.

The prospect that the United States could deter Soviet attacks against U.S. satellites while it simultaneously prosecutes an ASAT campaign against Soviet satellites is extremely remote, if not logically preposterous. One must therefore ask whether the United States could successfully defend against Soviet ASAT retaliation following a U.S. attack. Were the Soviet ASAT threat to remain as it is today, a successful defense might be achieved. But no threat is static, as most prudent military planners will attest. If the planned U.S. ASAT is deployed, the Soviets are almost certain to deploy a system more capable than the one they currently have. Additional satellite survivability measures notwithstanding, the probability of a cost-free U.S. ASAT campaign is very low. Given that the most likely setting for a superpower confrontation is on the Eurasian landmass, where Soviet reliance on satellites is comparatively low, the United States stands to lose a great deal more from ASAT exchanges than the Soviet Union. The inability of the United States to replace lost or damaged satellites quickly would compound this loss. Hence, the threat of retaliation for initiating ASAT attacks is more likely to deter the United States than the Soviet Union.

As for the threat posed by Soviet satellites, the United States does not at the moment need a dedicated ASAT capability to protect its military forces. The U.S. Navy appears confident that it can neutralize the most worrisome Soviet space systems — those used for ocean reconnaissance — with a variety of nondestructive measures such as jamming, spoofing, and evasive maneuvers. In a full scale nuclear war, the United States could also use nuclear weapons against Soviet satellites and the ground stations that maintain their operations.

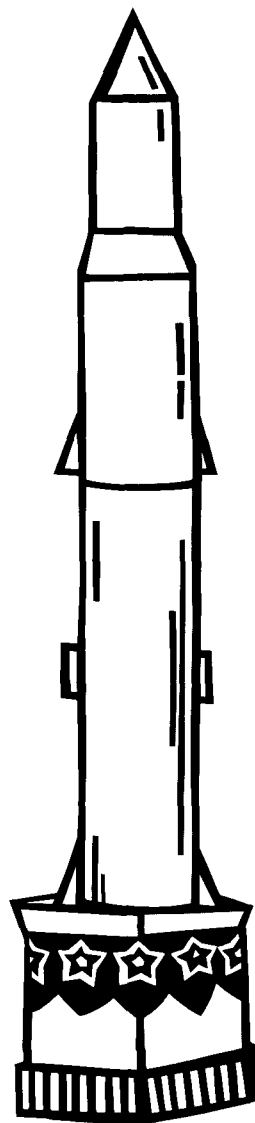
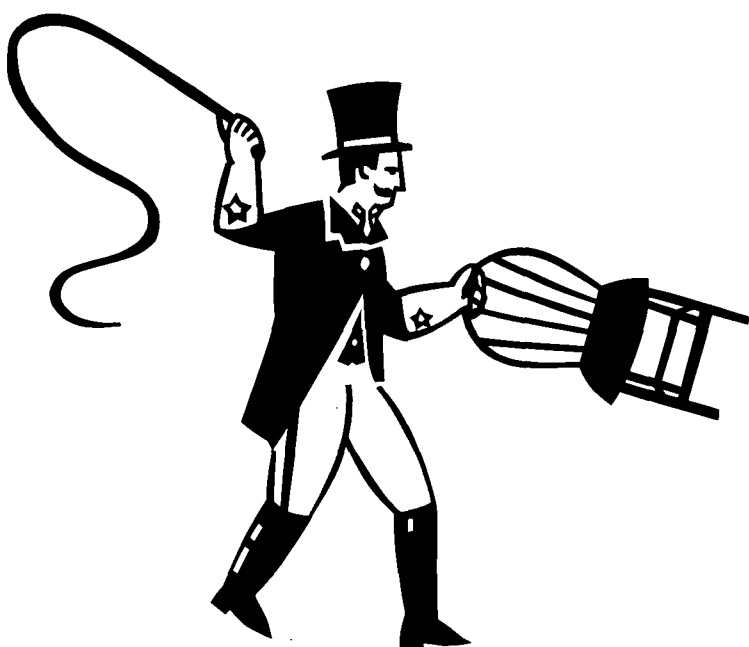
If the Soviets develop more threatening surveillance satellites that can continuously track mobile U.S. strategic forces both underwater and on land, then the United States almost certainly would need a dedicated ASAT

system. Yet all indications are that the technology for such omniscient surveillance will not be available for the foreseeable future.

Finally, regardless of the arguments for and against having an ASAT capability, there are serious questions about the desirability of procuring the F-15/ALMV system. Spending over \$4 billion on what will probably be no more than 35 missiles hardly seems cost-effective, especially when set against the long-term consequences.

What Are the Likely Consequences of ASAT Development?

As noted above, if the United States goes ahead with its ASAT program, the Soviets can be expected to deploy more capable antisatellite systems than the system they have deployed. Contingency planning, if not advanced development work, for such a system is almost certainly under way. An ASAT system comparable to the U.S. F-15/ALMV is probably within the Soviets' technical grasp. So too are more advanced weapons that will be able to threaten critical U.S. satellites in higher orbits. Indeed, a senior U.S.



*"The best position the United States can hope to reach
in the event of an unconstrained ASAT
competition is the one that it occupies today,
namely that most U.S. satellites
— certainly those in high-altitude orbits —
are relatively safe from all but nuclear attack."*

Air Force officer said three years ago that he had "no doubt that the Soviets have the technology for high-orbit ASATs." The annual U.S. Defense Department publication *Soviet Military Power* has also painted an alarming picture of potential Soviet ASAT weapon systems that would use lasers and particle beams.

Deployment of such weapons would clearly make the task of protecting U.S. satellites much more difficult, even with considerable investments of effort and money in satellite survivability measures. The best position the United States can hope to reach in the event of an unconstrained ASAT competition is the one that it occupies today, namely that most U.S. satellites — certainly those in high-altitude orbits — are relatively safe from all but nuclear attack. Just as likely, however, is that the effort will become either too expensive or just too difficult. As a consequence the United States will not only risk losing the current benefits that satellites provide to U.S. forces in wartime, but it may also have to forgo the development of new military satellites, regardless of how beneficial they may be, simply because their vulnerability to attack will be too great. Worse still, the United States might develop false expectations about the survivability of its space assets, prompting even greater reliance on satellites in wartime. The results could be catastrophic for the United States in a war with the Soviet Union.

In addition to these military concerns, unconstrained ASAT development also has serious implications for conflict management and crisis stability. The presence of highly capable ASAT weapons will undoubtedly add new uncertainties to crisis situations, especially when satellites used for the command and control of strategic nuclear forces become vulnerable. While it would be prudent for both sides to reduce their dependency on such satellites, their vulnerability could still create an undesirable and potentially unstable situation in a severe crisis. With so much at stake, therefore, the administration should seriously reconsider its requirement for an ASAT system and its opposition to space arms control.

Are ASAT Constraints Feasible?

The basis of the Reagan administration's argument against ASAT arms control is that an agreement could not hope to address all the possible threats to U.S. satellites, and even those it could constrain would not be verifiable. These two objections warrant further review.

The administration asserts that because the United States relies on a comparatively small number of satellites, America would face a disproportionately higher risk than the Soviet Union from residual ASAT threats if it agreed to an ASAT arms accord. This assertion is not a valid case against the merits of arms control. Rather, it is an argument against placing too much reliance on a small number of satellites, which will become even more vulnerable in the absence of arms control. With the appropriate precautions to increase the survivability, and moreover, redundancy of the exposed satellites, the risk from Soviet residual threats can be reduced to acceptable proportions.

The administration's low estimate of its ability to defend U.S. satellites from Soviet attack sharply contrasts with its assertions about defending the space-based portions of the missile defense system envisioned under the Strategic Defense Initiative. Moreover, SDI supporters are confident that they can defend the space-based antimissile system against an adversary whose options to attack orbital systems are unconstrained. If the SDI program office (SDIO) is convinced of its ability to defend against preemptive attacks in space, even against presumably dedicated ASATs, then surely its expectations should be even higher if the Soviet Union's ability to test and deploy such systems is severely limited. If the SDIO's confidence is ill founded, as many believe, then the United States must decide whether it would rather live with the threat from Soviet residual ASAT systems knowing that it could compensate unilaterally for this vulnerability and still benefit from the services that satellites provide, or alternatively, allow the Soviets complete freedom to develop and perfect the most sophisticated antisatellite systems with the very real prospect that vital

U.S. satellites would not survive for very long in wartime. Given those choices, U.S. military commanders would surely opt for the former.

That choice certainly seems to be the preference of former Air Force Chief of Staff General Charles A. Gabriel. Testifying before a House appropriations subcommittee in 1984, Gabriel said, "I would rather both sides not have a capability to go to geosynchronous orbit with an ASAT. In fact I would like to be able to agree with the Soviets that we not have any ASATs if we could verify it properly." Gabriel's caveat about verification is an important one. The United States cannot monitor compliance with an ASAT agreement, or for that matter any arms control agreement, with *absolute* certainty. Yet, it can monitor with a high degree of confidence the most important part of an ASAT agreement, namely the testing and deployment of systems specifically designed for ASAT missions. As one of Gabriel's deputies, Maj. Gen. Thomas C. Brandt, acknowledged to the Senate Armed Services Committee in 1985, "We have an excellent capability to monitor the employment of the Soviet ASAT." With added improvements to U.S. space surveillance capabilities, most notably a space-based satellite tracking system, U.S. confidence in its ability to monitor an ASAT test ban should grow still further.

The verification issue, like the debate over the residual ASAT threat, ultimately comes down to a basic choice. Should the United States take advantage of an agreement that reduces the most serious threats to U.S. satellites, or should it forgo an agreement because it cannot monitor every possible violation, but only those that are militarily significant? Again the answer seems clear.

What About the SDI?

The U.S. commitment to the Strategic Defense Initiative represents both an obstacle to negotiation and a threat to successful implementation of ASAT limitations. The SDI is an obstacle because the United States is clearly reluctant to

agree to ASAT limits that might constrain its freedom to pursue antimissile research. Testing such systems in ways that resemble an antisatellite test appears to be the administration's strategy for avoiding some of the more restrictive portions of the Antiballistic Missile (ABM) Treaty. Furthermore, because ASAT weapons are a principal means for countering space-based missile defenses, the Soviet Union's willingness to consider ASAT constraints is likely to recede the longer the United States continues to pursue antimissile research and development.

The SDI is a threat to meaningful ASAT limitations because the techniques for intercepting satellites and ballistic missiles are so similar. Because the task of defending against ballistic missile attack is operationally more demanding, many experimental antimissile systems will become de facto ASAT devices long before they can prove their feasibility for deployment as strategic defense weapons. If nothing else, the SDI promises to become a breeding ground for new generations of ASAT weapons.

Finally, given the dual capability of many antimissile systems, their deployment beyond current levels would render an ASAT agreement virtually meaningless. The only conceivable exception is the deployment of antimissile systems designed to defend ICBM silos and critical command and control sites by intercepting warheads within the atmosphere.

Ironically, the feasibility of strategic defense may ultimately rest on constraints being placed on antisatellite weapons. Although SDIO officials believe that they can protect the space-based components of a strategic defense system, their confidence, as already noted, is not widely shared within the defense community. Either way, restricting the threat to space systems would certainly make life a lot easier for SDI planners. A prohibition on ASAT tests and deployments in high-altitude orbits, for instance, would go a long way to help protect vital early-warning and battle-management sensors that are likely to be deployed there as part of an SDI system. Even modest arms control proposals, such as a "rules-of-the-road" agreement that regulates

*"Ironically, the feasibility of strategic defense
may ultimately rest on constraints being placed
on antisatellite weapons. Although SDIO officials
believe that they can protect the space-based components
of a strategic defense system, their confidence . . .
is not widely shared within the defense community."*

"The benefits of limiting the threat to U.S. space systems through mutual restrictions on ASAT development more than outweigh the costs of forgoing a dedicated ASAT capability. In short, the United States has no overriding requirement for an ASAT system."

space operations, could be helpful; Lt. General James Abrahamson, the director of the SDIO, has already expressed an interest in the concept of "keep-out zones" to protect key space assets.

Space arms control and antimissile research (even deployments) may not be as incompatible as an initial assessment might indicate. It must be remembered, however, that strategic defenses — certainly those offering any meaningful protection of populations — are very remote possibilities, while the opportunities to constrain antisatellite weapons exist today. The United States can take advantage of these opportunities, without forgoing SDI research completely and without giving up the long-term hope that the SDI can render nuclear weapons "impotent and obsolete," to use President Reagan's words. The only prudent way to achieve both aims is to pursue a balanced combination of unilateral and cooperative initiatives.

What the United States Should Do

The benefits of limiting the threat to U.S. space systems through mutual restrictions on ASAT development more than outweigh the costs of forgoing a dedicated ASAT capability. In short, the United States has no overriding requirement for an ASAT system. However, an all-inclusive treaty that prohibits the deployment, testing, and use of antisatellite systems does not seem a realistic goal in the present climate of U.S.-Soviet relations. There are just too many negotiating hurdles to overcome. Moreover, because the balance of costs and benefits to ASAT system development may change in the future, the United States should retain the option to deploy an antisatellite system some time in the future.

American policymakers, therefore, should endeavor to steer a middle course between outright prohibition and no limits whatsoever. They should also recognize that even the most restrictive bilateral limitations on ASAT developments cannot substitute for other necessary practices such as maintaining — or better still increasing — the level of support for space system survivability measures. These

unilateral measures are essential to minimize the risks associated with the presence of residual ASAT systems. At the same time satellite defensive measures are really effective only if they are combined with ASAT limitations. With these points in mind, the United States should:

- *Join the Soviets in their ASAT moratorium conditional on their continued compliance.* The United States should suspend all tests in space of the F-15/ALMV, not just tests against objects in space, as has previously been permitted. U.S. officials should review Soviet compliance with its own moratorium each year.

- *Desist from all ABM-related weapons tests in space.* This moratorium should also apply to tests in space of fixed land-based ABM systems, which are currently permitted under the ABM Treaty. At the same time, the United States should reaffirm its commitment to observe the strictest possible interpretation of the other clauses of the ABM Treaty, again conditional on Soviet reciprocity.

- *Maintain a minimum ASAT research and development base.* Procurement funding for the F-15/ALMV system should be deleted and the program "mothballed" so that it could be readied for further testing and deployment if the Soviets break their moratorium. Limited funds for exploratory research into other ASAT techniques should be continued.

- *Continue to improve the survivability of U.S. space systems.* Soviet observance of an ASAT test moratorium, or for that matter any other kind of space arms control agreement, should be no cause for laxity with satellite survivability measures. Obvious though it may seem, opportunities for the Soviets to conduct "cheap shot" attacks against U.S. satellites, especially using residual ASAT systems, should be reduced to a minimum by protecting both the satellite portions of space systems and the vital communication links and ground facilities.

- *Increase the redundancy of U.S. space systems.* The United States should also improve the capacity to replace its satellites quickly if they are destroyed or to switch to alternative nonspace-based systems if need be. Currently, the United States prefers in-orbit spares and hosting

surveillance sensors and communication transponders on a variety of different space platforms. While this practice of proliferating systems should continue, the Pentagon should seriously investigate developing an emergency launch-on-demand capability for crucial categories of satellites such as those used for photo-reconnaissance and emergency communication. These substitute satellites would be relatively cheap and designed to perform only the minimum necessary in wartime. At the very least, the United States should practice emergency launches of satellites to replace those disabled by enemy action.

The United States should also simulate in its military exercises and war games the loss of key satellites so that it can learn to adjust without their support—at least for short periods. The Joint Chiefs of Staff reportedly have conducted several exercises in which the Soviet Union is postulated to use its ASAT system. In one of these, the military was unable to compensate for the simulated loss of a U.S. satellite, which caused considerable disruption in other operations. Obviously, to avoid loss of military effectiveness, functionally equivalent alternatives must be available. Among the alternative methods worth further investigation are over-the-horizon (OTH) radar to detect ballistic missile launches and OTH electromagnetic pulse sensors to detect nuclear explosions, novel communication techniques such as ultra-high frequency meteor burst and adaptive high frequency systems, and long-range, high-altitude, remotely piloted vehicles for postattack reconnaissance. Developing these alternatives will be expensive, but the United States must avoid at all costs overdependence on satellites, particularly for the execution of nuclear command and control functions. Finally, policymakers should be wary of developing overly elaborate war plans based on unrealistic expectations of the endurance of satellites in a nuclear war.

— *Continue to improve U.S. capabilities for surveillance of activities in space.* Upgrading U.S. satellite detection and tracking facilities is essential, not only to maintain confidence in Soviet compliance with an ASAT test moratorium but also to reduce the likelihood that an ambiguous incident or accident in space could set in motion an unnecessary and dangerous chain of events. An orbiting network of sensors to track objects in space is particularly desirable.

— *Continue to take measures to reduce the threat from Soviet satellites.* Even though the United States should refrain from deploying the F-15/ALMV system, it need not remain defenseless against the threat from Soviet satellites. Countermeasures that the United States can adopt in wartime range from passive deception techniques such as decoys and camouflage to active measures such as electronic jamming.

Beyond these unilateral actions the United States should also consider negotiating the following agreements:

— *A bilateral ASAT test moratorium.* This moratorium could be a five-year renewable commitment not to test ASAT systems or any other weapons in space.

— *A U.S.-Soviet space weapons ban.* This prohibition would bar the stationing of weapons of any kind in outer space. Other countries could sign the agreement at a later stage.

— *An Incidents in Space agreement.* This accord should not only clarify and extend the existing prohibitions against

deliberate interference with satellites but also include rules to govern operations in space. The rules could require advance notification of space launches, set minimum distances between space objects, and ban simulated attacks. In addition, emergency consultative channels and procedures to prevent hostilities arising from incidents in space should be set up. Measures that address the growing problem of space debris and the safe use of nuclear power sources in space are also desirable.

— *New guidelines and clarifications for permissible types of antimissile research and development.* Defining precise, quantifiable parameters for testing generic classes of weapons technology such as directed and kinetic energy weapons would be particularly useful. Such clarifications would help reduce areas of ambiguity in the ABM Treaty. These negotiations could be conducted within the U.S.-Soviet Standing Consultative Commission (SCC) established by the SALT I accords, and take the form of additional common understandings or protocols to the ABM Treaty.

At some point the United States and the Soviet Union will need to discuss the military use of space on a more fundamental level. Placing limits on the development of weapons for use in or from space does not address the root cause of the problem. As both superpowers increasingly use space systems to enhance military operations on earth, the incentives to develop countermeasures will make it difficult for either country to abide by ASAT weapons restrictions. To avoid a fruitless and debilitating arms race in space, the superpowers must also begin to develop guidelines to govern other military uses of space. The present tacit *modus vivendi* allowing reconnaissance from space will come under increasing pressure perhaps sooner than many appreciate. To preserve the beneficial and stabilizing aspects of the existing arrangement, the United States and the Soviet Union may have to agree to restrict certain kinds of threatening surveillance activities in space. Similarly, the two nations will have to adapt as other countries and even private news-gathering organizations develop earth observation satellites with militarily relevant capabilities. Flexibility and cooperation on these issues in the short term should be far more productive than letting the situation deteriorate, with a net loss to international security in the long term.

The United States is confronted with a clear and fundamental choice. It can plunge ahead with the development of antisatellite weapons in the certain knowledge that the Soviet Union will eventually develop similar systems of its own. In the process, the difficulty of protecting U.S. satellites will increase, despite ever more elaborate and costly countermeasures. Besides the added uncertainties that the mutual possession of highly capable ASAT systems will create in crisis situations, the United States may eventually have to forgo the development of future space systems due to their overwhelming vulnerability. Alternatively, the United States can take a different path, one that combines feasible constraints on ASAT weapons development with prudent unilateral actions to minimize the attendant risks. On balance this course of action offers benefits to U.S. national security that more than outweigh the possible costs. It is a course that should be explored before the opportunity passes.

Who Is Conning the Alliance?

William W. Kaufmann

THE ISSUE of how much NATO can or should rely on its conventional capabilities to deter or defeat a nonnuclear attack by the Warsaw Pact in Central Europe is obfuscated by what Winston Churchill once called terminological inexactitudes. A descriptive convenience — namely to characterize a complex relationship as a balance of forces — quickly leads to a literal interpretation of equilibrium and disequilibrium. Orders of battle are studied and compared by categories of weapons, costs, and primitive scoring methods that purport to measure the combat power of each side (see table 1). These efforts to see in which direction the military scales will tilt inevitably lead Western defense planners to pessimistic conclusions about the state of the balance, because the Pact has more divisions, tanks, infantry fighting vehicles, artillery, and combat aircraft than the alliance does.

Despite this pessimism, the relative peace that has enveloped Central Europe since 1945 seems to support the proposition that an equilibrium of sorts does indeed exist. Some observers of this postwar stability have even argued that the addition of more conventional capability to NATO's arsenal would actually weaken its nuclear deterrent and thereby tempt the Pact to attack. However, no one seriously claims that the existence of a large Red Army or the Kremlin's declaration of no first use has undermined the Soviet nuclear deterrent.

Be that as it may, the distinct possibility remains that the stability exists simply because the Soviet Union has had no serious intention of trying to capture Western Europe by overt military means. That the nuclear threat would be executed under the pressure of a major Russian mobilization and deployment followed by, say, a probe into West Berlin or North Norway is uncertain, to say the least. What seems entirely plausible, however, is that if a major attack should occur despite current nuclear capabilities and declarations, NATO would take a considerable amount of time to bring itself to the use of nuclear weapons, assuming always that the USSR had not been the first to leap into the abyss.

Several propositions follow from this prospect. One is that NATO would do well to have more survivable nuclear capabilities than the ones that are currently deployed in and around Europe. Another is that the alliance had better have enough conventional forces, at a minimum, to buy the time necessary to wrestle with the nuclear decision. Exactly how much time these forces would have to buy cannot be stated with confidence. However, despite the assertion by former Supreme Allied Commander, Europe, General Bernard Rogers that he would have to request the use of nuclear weapons after three days of nonnuclear combat in Central Europe, the likelier eventuality is that the allied leaders would want and need a good deal more time to consider whether to take this apocalyptic step. Consequently, NATO's conventional capabilities would have to be rather robust in combat power and effectiveness and be capable of sustaining themselves under

William W. Kaufmann, a consultant to the Brookings Foreign Policy Studies program, is professor emeritus of M.I.T. and lecturer at the Kennedy School of Government, Harvard University. This article is based on a paper prepared for a meeting on "rethinking the role of conventional forces and arms control in European security," cosponsored by the Aspen Strategy Group and the European Strategy Group. The meeting was held on June 14–16, 1987, in Berlin. The author is grateful to the Aspen Strategy Group for permission to publish excerpts from the original paper.

To conn is a nautical term meaning to steer or direct the steering of a vessel.

attack for more than the three days allowed by General Rogers. Thus one of the key issues facing NATO is whether it now has the conventional forces to prevent an early breakthrough by the Pact. A major prerequisite to the resolution of this issue is the choice of assumptions that should go into any assessment of NATO and Pact capabilities. As Madame du Deffand said when told that St. Denis had walked 10 kilometers with his head in his hands, the first step must have been the hardest.

Reviewing the Assumptions

Suppose that NATO aims at a reasonable chance of maintaining a conventional forward defense for at least a month. Do the planners have to work with such a wide range of assumptions that they must adopt the most unfavorable estimates of NATO and Warsaw Pact capabilities in order to be on the safe side? Or does close examination suggest that the more extreme assumptions about those capabilities miss the current realities of the situation in Central Europe?

As might be expected, these questions have no definitive answers. But enough unclassified evidence exists to challenge the results of the standard force comparisons and the more pessimistic military analyses of NATO's current capabilities.

The Scenarios

One of the most important reasons why NATO always does so poorly in the more pessimistic assessments has to do with the assumed speed and size of the Pact attack. Customarily planners tend to give only modest attention to the motives for and the objectives of the attack. Their concern is to design attacks that, while not violating any physical laws or standards of plausibility, will constitute severe tests of allied capabilities. The classic example of this kind of design is in the strategic nuclear arena. There the critical test of U.S. capabilities is a surprise attack by the USSR that involves large and diverse forces, is flawlessly executed, and gives U.S. alert forces less than half an hour of tactical warning.

Try as they might, NATO planners have never found a plausible way to duplicate this particular kind of attack. The best that SHAPE (Supreme Headquarters Allied Powers Europe) and other military headquarters could do, given the problems that attend the mobilization and deployment of conventional forces (few of which maintain high states of alert), was to compress dramatically the number of days it would take the Pact to prepare for an attack. Several stressful scenarios have resulted. In the first, the Pact attacks after only 4 days of mobilization (M+4) with a deployment of 30 or more divisions drawn from the Group of Soviet Forces in Germany (the GSFG), East Germany itself, and Czechoslovakia. In the second, the Pact launches its aggression after 9 days of preparation with 57 divisions (of which 26 are Soviet and 31 are East German, Czechoslovak, and Polish). In other words, all the Pact forces in East Germany, Czechoslovakia, and Poland (what NATO calls the guidelines area) are thrown at the allied defense line after a remarkably short period of mobilization and deployment. Even worse, the third scenario allows the Pact only 14 days of preparations but

postulates an attack consisting of 90 or more divisions drawn from the 3 western military districts of the USSR as well as the guidelines area. Because of its scale — involving more than 1.3 million combat and support troops and as many as 3,500 combat aircraft — and the speed with which it is prepared and launched, this attack has become the dominant test case for NATO planners. It has also had a great deal to do with the U.S. efforts of the past decade to develop the capability to deploy a total of at least 10 divisions (actually closer to 12 standard U.S. divisions) and 60 fighter-attack squadrons to the Federal Republic of Germany within 10 days to several weeks.

Parts of the U.S. intelligence and analytical communities doubt whether the Pact can prepare such an attack in two weeks or less. They point to the Soviet mobilization and deployment for Czechoslovakia in 1968, Afghanistan in 1979, and Poland in 1980, all of which seemed to take 90 or more days. They also suggest that because the Pact's forces are currently dispersed for peacetime training and garrison duty, the task of deploying the combat-ready divisions (of which, as estimated in table 2, there are not that many); filling out, training, and deploying the reduced-strength and cadre divisions; putting wartime communications in place; and establishing forward stocks of supplies would take more than 14 days. Otherwise the Pact would have to attack with a mob rather than with the coherent and combat-ready forces that are generally assumed. Some critics go still farther and argue that NATO should dispense with these allegedly artificial scenarios and substitute two other possibilities. The first supposes that a Soviet military suppression of an uprising in East Germany leads to a NATO alert (together with some reinforcements from the United States) and a preemptive attack on the Federal Republic by the GSFG, followed by the deployment of Pact reinforcements from the guidelines area and the USSR. The second postulates that a major international crisis leads the

**Table 1. The Warsaw Pact–NATO Balance:
A Standard View**

Capability	Ratio Pact: NATO
Main battle tanks	> 2:1
Combat aircraft	~ 2:1
Artillery	> 3:1
Surface-to-air missiles	~ 2:1
Combat helicopters	~ 2:1
Infantry fighting vehicles	3:1
Ground force combat power*	> 2.2:1
Tactical air power**	~ 1.7:1

*By this measure, the Pact led NATO by 1.5:1 in 1965 and 1.9:1 in 1970. Interestingly enough, the average annual rate of growth in Soviet combat power is 4 percent, which is the annual rate of growth formerly attributed to Soviet defense outlays.

**The Pact allegedly led NATO by less than 1.5:1 in 1965.

Source: U.S. Department of Defense Annual Report, Fiscal Year 1988, pp. 29–30.

Table 2. Warsaw Pact Divisions by Location and Category of Readiness

Location	Category of Readiness			
	I	II	III	Total
East Germany				
Soviet	19	—	—	19
East German	6	—	—	6
Czechoslovakia				
Soviet	5	—	—	5
Czechoslovak	7	—	3	10
Poland				
Soviet	2	—	—	2
Polish	6	5	4	15
USSR				
Western military districts	1	8	24	33
Strategic reserve	1	9	10	20
Total	47	22	41	110

Sources: The International Institute for Strategic Studies, *The Military Balance*, 1986–87; author's estimates.

USSR to launch a more gradual but massive mobilization and deployment than is customarily assumed, taking as many as 120 days to train and deploy 110 divisions, and then attacking NATO.

Allied Responses

Despite these challenges and the proposed substitutions, the older scenarios continue as the main basis from which NATO's assessments and force planning proceed. Because warning is so short and the enemy is so large, as well as combat-ready, NATO is left with little time to counteract the threat, regardless of the force at its disposal in the United States and other national territories.

Two other equally pessimistic assumptions compound this difficulty. The Supreme Allied Commander, Europe, does not count those forces that do not come under his command upon alert. As a consequence, French forces and other national components that are not committed, however likely their deployment in a crisis, are not included among the possible reinforcements for the Central Region; they are simply absent from the SHAPE order of battle.

This self-imposed handicap, so characteristic of theater commanders, is made more severe by a legalistic attitude toward boundaries between commands. Thus, Danish ground forces are considered a part of AFNORTH (Allied Forces North) and not counted in the AFCENT (Allied Forces Central) order of battle, even though the threat to AFCENT includes Polish units that would almost certainly be allocated to operations against Denmark.

More seriously, and more legitimately, SHAPE and other military headquarters tend to assume that NATO civilian leaders will prove reluctant to respond to signs of a Pact mobilization and deployment until they have overwhelming evidence that an attack on Central Europe is intended. Indeed, it can be argued that the artificial scenarios with their short warning times reflect not so much what the planners believe about the enterprise, skill, and élan of the Pact but their doubts about the willingness of NATO's leadership to act decisively in the face of uncertainty.

These reservations are understandable. However, there is no evidence that these leaders have been advised about the

costs of their expected foot-dragging. Not only do the expectations of delay lead to alarmist scenarios; they also create strong incentives for costly and risky measures to ensure the rapid deployment of U.S. forces. More realistic scenarios combined with better informed leaders could well result in larger reinforcements and lower costs.

Pact Combat Power

The assumption about the preliminaries to war are not the only handicaps that the alliance imposes on itself. NATO planners also credit Warsaw Pact forces with an extraordinary amount of combat power compared with that of whatever NATO forces manage to straggle to the front. It has become customary to believe, for example, that a Soviet division force (whether tank or motorized rifle) contains at least 80 percent of the combat power of its U.S. equivalent, even though the U.S. force is two to three times larger and probably costs at least three times as much. The East European divisions, while not considered on a par with those of the USSR, are still assumed to generate more combat power than most allied equivalents. The upshot is that the Pact, in every scenario, is assumed to have superiority in mobility, firepower, and armored protection as well as in numbers. Such a combination inevitably leaves NATO with only a small chance of being able to prevent a rapid conquest of Western Europe by conventional means.

Whether such pessimism is justified, even when NATO is assumed to be severely constrained in its own mobilization and deployment, is open to doubt. Skepticism grows stronger still when NATO responds promptly to warning and is given credit for all the forces that its members, including France, could deploy before a Pact attack. The reasons for these doubts are not hard to find. The Pact is supposed to have an overwhelming superiority in tanks, the so-called infantry fighting vehicles, and artillery. Yet, given the production rates for these items during the past decade, there is no way that all of them can be of relatively modern vintage. Beyond that, the structure of Pact divisions indicates that they are short of the accompanying transport and maintenance that characterize first-line U.S. and other NATO units. Whether, therefore, all the equip-

ment credited to the Pact would or could be in operation at the same time is unclear. The likelier eventuality is that a significant fraction of it would be held in reserve to replace combat-damaged or broken-down equipment that could not be repaired at the division level. Moreover, considering the U.S. Army's estimates of the amounts of ammunition and petroleum products the Pact would consume, it seems fairly evident that NATO units would offset some of their alleged inferiority in numbers with greater rates of fire and movement.

Much better understood but not seriously factored into most standard analyses of relative capabilities is the small number of combat-ready (or Category I) divisions on which the Pact could rely in a rapid mobilization and deployment. In fact, of the standard contingencies, only the surprise attack at M+4 would be made up entirely of Category I divisions (see table 3). At M+9 and M+14, a substantial number of Category II and III divisions would have to be rushed into the field, presumably with older sets of equipment and in some instances without full complements of weapons and vehicles. By contrast, the United States would be loath to commit most of its National Guard and Reserve combat units to the line before M+90 (or later) even though they are better manned and equipped than many Category II and all Category III divisions (which are mostly divisions in name only). In short, a strong case can be made that NATO could have more forces deployed than the pessimistic assumptions allow, and that these forces would have more firepower and mobility relative to the Pact capabilities than is generally supposed.

Pact Combat Effectiveness

Perhaps even more important, the effectiveness of Pact forces has probably been overrated. Although the Pact would have the advantage of the initiative in choosing the time and places of its attacks — an advantage that could cause NATO delays and misallocations in the commitment of its reserves — the alliance would defend prepared positions (which could be greatly strengthened at relatively low cost). If historical data still are valid, the defense on this score alone should obtain twice the effectiveness of the offense from its firepower. Furthermore, NATO's great mobility with vehicles and helicopters, together with its substantial intelligence and communications capabilities — for which it receives little or no credit in the usual

Table 3. Categories and Number of Warsaw Pact Divisions by Contingency

Contingency	Category			Total
	I	II	III	
M+4	30	—	—	30
M+9	45	5	7	57
M+14	46	13	31	90
M+120	110	—	—	110

Sources: U.S. Department of Defense, *Soviet Military Power*, 1983, pp. 6-7; author's estimates.

“... a strong case can be made that NATO could have more forces deployed than the pessimistic assumptions allow, and that these forces would have more firepower and mobility relative to the Pact capabilities than is generally supposed.”

comparisons — make it less prone to misallocations and more able to recover from them than is granted by the more pessimistic assumptions.

Quite apart from these considerations, Pact forces, no matter what the scenario, are likely to be less effective during the first weeks of a campaign than is generally supposed. Category I units keep their newest equipment in storage and train on older weapons and vehicles. Moreover, a good deal of the training time is spent on giving instructions to new conscripts who arrive from their draft centers every six months or less as other conscripts, having completed their terms of service, leave for home. The upshot is that individual units suffer from considerable turbulence and spend less time on unit training and large-scale exercises than their NATO counterparts. The effectiveness of Category II and III units is likely to be still lower.

The effectiveness expected of non-Soviet Warsaw Pact (NSWP) forces is at least as important as that attributed to Soviet units. Indeed, the NSWP divisions could be vital to the success of an attack since in the standard analyses they contribute more than 35 percent of the Pact combat power

*"NATO cannot ignore
the dangers
of strategic and
tactical surprise,
but there is much to be said
for paying more attention
to large-scale and
deliberate attacks."*

at M+4, more than 51 percent at M+9, and at least 32 percent at M+14. Only at M+120 would they constitute less than 30 percent of the attacking force. Thus, in all four scenarios, the standard and most pessimistic analyses give them a critical role in Soviet plans.

Standard analyses credit NSWP forces with an effectiveness equivalent to that of their Soviet counterparts. Obviously, if the NSWP forces perform less well than that, cannot be counted upon at all, or require a diversion of Soviet units to monitor them and guard essential lines of communication through Poland and East Germany, NATO's prospects would look a great deal better. In the circumstances, while prudence may dictate keeping the NSWP forces in the Pact order of battle, there are good grounds for downgrading their contribution to a Pact attack and for looking less pessimistically than is customary both at NATO's chances of holding a forward defense and at the costs of removing any deficit in allied capabilities.

On a less encouraging note, as Soviet divisions become

the dominant element in the attack force, which is the case at M+14 and still more so at M+120, the effects of downgrading the NSWP units (or removing them entirely from the Pact order of battle) becomes less damaging to the enemy cause. Indeed, what this obvious point suggests is that NATO planners may have focused their attention and highest-priority efforts on the wrong contingencies. The M+4 and M+9 attacks, assuming they are even feasible, look far less dangerous than is generally asserted. And the M+14 invasion, while seemingly unstoppable, demands a more heroic amount of speed and efficiency than the members of the Pact are likely to attain. The assumption that the worst case from the standpoint of NATO is one in which the Pact risks the effectiveness of its forces in a pell-mell mobilization and deployment cannot be disproved. But it holds true only when everything works magically right for the Pact and when NATO's leaders react sluggishly to these preparations. That the conservative military leaders of the Pact would agree to take such a risk, especially since the NATO record does not consist of unblemished sluggishness, is problematic to say the least.

Attacks that occur after a protracted period of mobilization, deployment, and shakedown run the risk that NATO will deploy more of its assets in Germany. But they give the Pact certain advantages as well. All Soviet divisions could probably reach an acceptable level of combat effectiveness at M+120; dependence on NSWP forces would become less critical; and a major weakness of NATO would be exploited, namely an inability to generate more than 49 combat-ready divisions, even over a period as extended as 120 days. NATO cannot ignore the dangers of strategic and tactical surprise, but there is much to be said for paying more attention to large-scale and deliberate attacks.

The Role of Tactical Air

Most standard analyses draw their pessimistic conclusions from what is generally conceded to be Pact superiority on the ground. Lip service is paid, at least in public, to the role of air defenses and tactical fighters. But their impact is not usually reflected in any specific way on the outcome of the ground battle — largely on the assumption that dense Pact air defenses and an increased offensive capability in fighter and attack helicopters will nullify NATO's technical superiority in tactical fighters.

Not only is this supposition an overly impressionistic and casual attitude toward what amounts to a large investment by NATO, it also overlooks opportunities to reduce significantly whatever superiority the Pact now has on the ground. A quite explicit case can be made that allied airpower already reduces the odds in the Pact's favor, particularly in a surprise attack. Air defense continues to be the dominant component of Pact airpower. Despite this emphasis, military planners generally assume that the Pact would use its offensive aircraft to conduct a concentrated attack on NATO's nuclear launchers, airfields, and lines of communication. If that should indeed be the case, and the allies should commit their fighter/attack aircraft to an air superiority battle, there is reasonable confidence that NATO would gain command of the air over Eastern Europe. At a minimum, therefore, allied airpower should be able to obtain relative immunity for NATO's rear areas and especially for its logistical system.

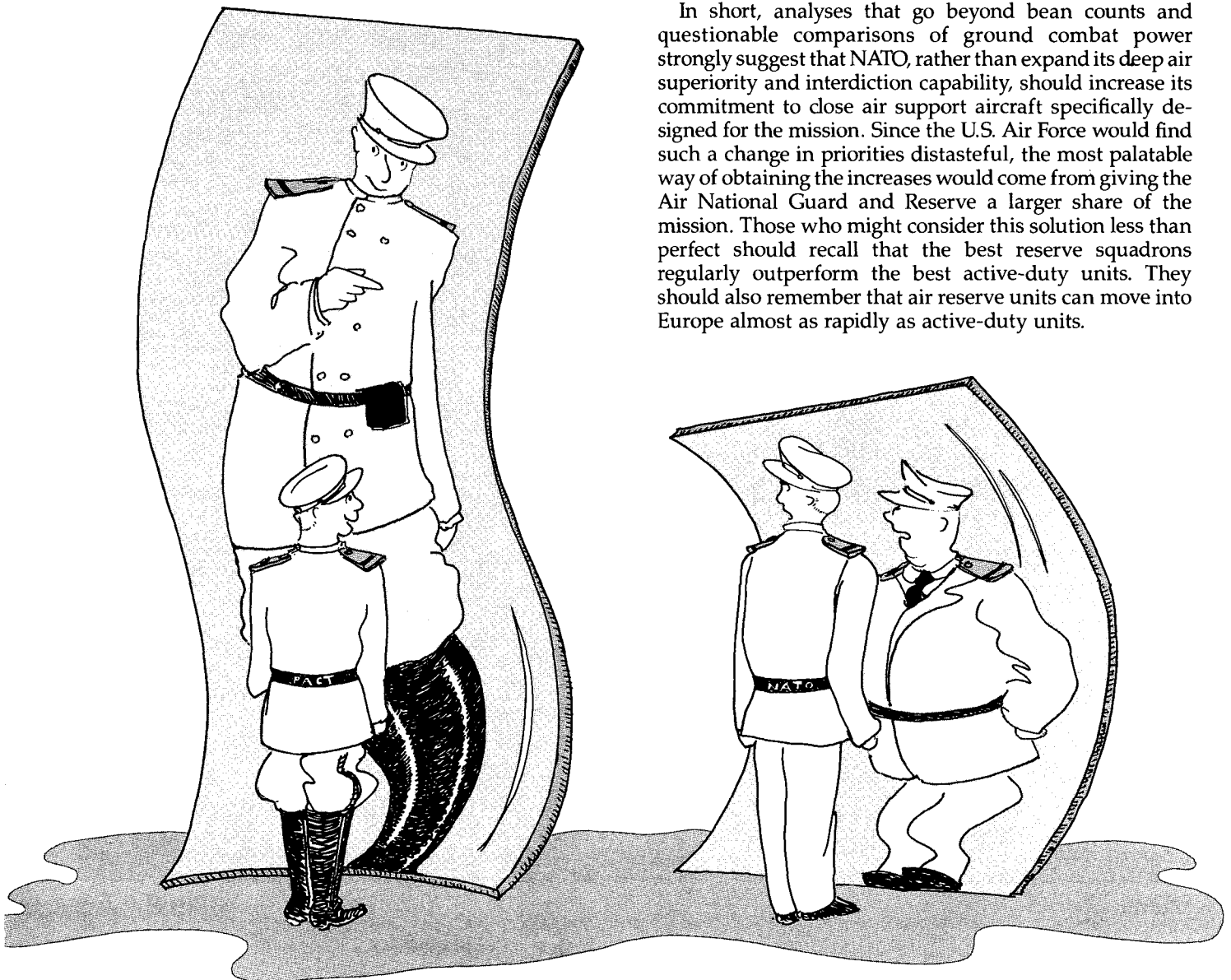
Allied air commanders have indicated that in the event of an early crisis in the ground battle, they would commit a number of their longer-range aircraft such as the F-111 and the F-16 to close air support. Since these aircraft are not particularly suited to this role because of their high speeds, difficulty in acquiring targets of opportunity, and vulnerability to the heavy antiaircraft fire contained in Pact divisions, how well they would do, even if armed with modern munitions, is difficult to estimate.

There is, in any event, a question whether the aircraft would be committed soon enough. Independent air forces do not particularly relish playing handmaiden to the ground forces, however pivotal the campaign on the ground might be. Their preference is to fight the air superiority battle and then go on to attack the enemy's lines of communication and war production base so as to bring enemy ground forces to their knees without much help from allied armies. Consequently, air commanders will be likely to commit the bulk of their aircraft to air superiority

and interdiction, although the transportation system in Eastern Europe may prove fairly immune to collapse.

In recognition of this propensity, the U.S. Army has invested heavily in attack helicopters for close air support. However, helicopters tend to be vulnerable to ground fire, especially while taking aim at their targets, and provide a second-best solution to the problem of augmenting the combat power of the ground forces. Fortunately, as a substitute, NATO can deploy perhaps 684 or more close air support aircraft. Not only are these aircraft superior to attack helicopters in speed, payload, and armor; they also outweigh their Pact counterparts in these characteristics and in numbers. Indeed, when they are included in the NATO defense, are committed against the heaviest enemy ground concentrations, and fly multiple sorties a day during the first days of the war, they help to lower the probability of a Pact breakthrough. The decline is most dramatic in the M+4 contingency, when the odds actually shift in NATO's favor. The odds still favor a Pact breakthrough in the other three contingencies. But an increased emphasis on close air support aircraft would improve allied chances, despite the larger scale of the Pact ground attacks.

In short, analyses that go beyond bean counts and questionable comparisons of ground combat power strongly suggest that NATO, rather than expand its deep air superiority and interdiction capability, should increase its commitment to close air support aircraft specifically designed for the mission. Since the U.S. Air Force would find such a change in priorities distasteful, the most palatable way of obtaining the increases would come from giving the Air National Guard and Reserve a larger share of the mission. Those who might consider this solution less than perfect should recall that the best reserve squadrons regularly outperform the best active-duty units. They should also remember that air reserve units can move into Europe almost as rapidly as active-duty units.



Ground forces supposedly can operate night and day and in all kinds of weather; close air support aircraft are more limited. But once a strong enough screen of ground forces exists to prevent infiltration on a large scale and to force the enemy to concentrate its units for a breakthrough, close air support aircraft can substitute for additional ground forces in a roughly calculable way. Moreover, unlike the air superiority/interdiction mission, which is likely to be slow in its payoffs, close air support can make a contribution from the outset of an attack. After physical barriers to ground attack, which are cheap and highly effective in forcing larger Pact concentrations and thus buying time, close air support aircraft are probably the most efficient way to reduce any NATO deficit.

Logistics

Whether the two belligerents could sustain the kind of intense combat anticipated by most NATO planners is not an issue on which published analyses and the standard comparisons have much to say. The general assumption seems to be, however, that both sides will have available the logistical systems necessary to keep the combat forces supplied, but that NATO is likely to run out of war reserve stocks — particularly ammunition and spare parts — well before the Pact. A common outcome is one in which the allies collapse, not for lack of combat power but because of shortages in supplies.

*"The general assumption
seems to be . . . that NATO
is likely to run out of
war reserve stocks —
particularly ammunition
and spare parts —
well before the Pact."*

Such pessimistic assumptions may seem the most prudent ones to make. But the available evidence suggests that none of them should be taken for granted. Perhaps the weakest part of the NATO logistical system lies at sea, especially as the U.S. Navy continues to be more intrigued with the power projection capabilities of carrier battle groups and amphibious forces than with protecting the sea lines of communication. As a result, losses of shipping to Soviet submarines could prove severe during the first month of a conflict in Central Europe. However, with modest increases in frigates and destroyers, U.S. and allied navies should be capable of escorting essential convoys safely across the Atlantic.

In Western Europe itself, the transportation system is sufficiently diverse and dense so that it should be able to support the combat forces despite any Soviet efforts to interdict it. Problems could arise in the distribution of supplies at corps and division levels because truck capacities may not match expected consumption rates. Rationing of ammunition and fuel might therefore become necessary, and combat effectiveness might decline as a consequence.

The prospects on the Pact side are even less certain. Trains and trucks moving from the interior of the Soviet Union to the Polish border would presumably enjoy an uninterrupted journey because NATO would probably not permit its fighter/attack aircraft to bomb inside the USSR, at least during the early stages of a conflict. But troubles for the transportation system would begin at the frontier. Train cargoes would somehow have to be shifted from freight cars built for the wide-gauged railway tracks used in the USSR to the narrower gauges employed by the railways of Poland and the rest of Europe. Such transfer points would constitute logical targets for allied attack. From then on, the transportation system and its contents would presumably come under intense bombing, with bridges, tunnels, marshaling yards, locomotives, and truck convoys the targets of modern munitions credited with high single-shot probabilities of kill.

No one can say with confidence to what extent the Pact could repair the logistical system under these conditions and maintain good control over its traffic. The U.S. Air Force seems to expect that the whole system would collapse in a few days under this kind of pressure. In such a case the Pact would have to rely exclusively on its forward stocks, which would be vulnerable to attack by close air support aircraft. But such a bonus is almost certainly too much to expect. Leakages in the blockade are likely to occur.

Other types of breakdown are possible. The Pact as a matter of practice and NATO as a matter of expediency have largely dispensed with their combat service support forces in peacetime. Both sides would have to mobilize truck drivers, military police, engineers, and medical personnel from their reserves and civilian economy. Neither could have much confidence that these forces would operate at maximum efficiency in the early stages of a war, particularly if the conflict were the product of a short mobilization followed quickly by a Pact attack. The supplies might be on hand, but the systems could be dangerously slow in delivering them.

Suppose, however, that both systems worked well, that the transportation was at the right places at the right times, and that essential supplies could be delivered as needed. Would NATO not run out of these essentials well before the

Program	Total	U.S. Share	Non-U.S. Share
20 fast sealift ships	\$ 4.1	\$ 4.1	\$ -
14 divisions	67.8	46.1	21.7
Defense barrier	2.0	2.0	-
8 wings of close air support aircraft	18.0	18.0	-
30 days of supplies for additional forces	12.7	8.6	4.1
Airfields for additional close air support	0.3	0.3	-
French line of communications	2.0	1.0	1.0
Total	\$106.9	\$80.1	\$26.8

Table 4. Incremental Cost of a Robust NATO Defense in U.S. Prices (in billions of 1986 dollars)

Source: Author's estimates.

Pact? The possibility cannot be ruled out, but it is by no means the certainty that the pessimists accept. Theater commanders admittedly complain bitterly, as is their wont, about the shortfalls in their stocks of combat consumables. But none of them explains satisfactorily why the shortfalls remain constant when both the United States and its allies have spent nontrivial amounts on building up precisely those stocks.

Fortunately, a possible explanation exists. Even though theater commanders are gloomy about their chances of withstanding a Pact attack for more than a few days, they are sufficiently optimistic to want enough war reserve stocks to last for six months, or the time traditionally estimated to be needed before their forces can be supported directly from expanded production lines. At the same time, estimated daily consumption rates keep rising. The brief Arab-Israeli war of 1973 increased these rates beyond the averages for World War II and Korea. They have gone higher still as weapons within the combat structure have proliferated and rapid reloading has been built into delivery systems such as the M-1 tank and the multiple launch rocket system. Finally, smart munitions cost at least 20 times more than dumb ordnance, yet the services for the most part continue to assume that they will fire the smart weapons at the same rates as the dumb ones. Therefore a great deal of money can be spent without seeming to add much to the number of days of supply, even though — if the smart munitions work the way they are supposed to do — NATO may well run out of targets before it runs out of munitions. It is quite feasible, in sum, to have increased stocks, added costs, and constant supply deficits.

Whether the Pact has got itself into the same peculiar situation cannot be easily determined. But several points are worth making about the ability of its forces to fight an extended campaign. First, consumption rates for Pact ground and tactical air forces are estimated to be less than half those of their NATO counterparts, which raises still further questions about the effectiveness of Pact forces. Second, Pact divisions, whether out of preference or necessity, are built without much sustaining capability. Third, while estimates of Soviet war reserve stocks sound impressively large, when the alleged stocks are divided among all the divisions the Soviet Union is supposed to have in its inventory (209 in 1987), these units probably

could not operate for more than a few weeks in relatively intensive offensive warfare. Fourth, considering the cost of modern munitions, the size of Soviet conventional forces, and the constraints on the defense budget of the USSR, it seems likely that the Soviet war reserve stocks consist mostly of fairly traditional munitions. Thus, if NATO sensibly controls the consumption of its more expensive stocks, not only is there likely to be enough to go around, the alliance should also be in a good position to equal the Pact in sustainability.

Designing for Stability

In sum, NATO's prospects for a robust conventional defense are probably not as dim as is generally supposed. Unfortunately, however, that conclusion does not tell the whole story. More detailed analyses, even when using less pessimistic assumptions than is customary, suggest that NATO still lacks reasonable confidence of being able to withstand a nonnuclear attack by the Warsaw Pact. That said, those same analyses indicate that, considering the investment the alliance has already made, a vigorous conventional defense is well within NATO's grasp and that the costs are well within its means.

The necessary improvements, listed in table 4, would require the commitment of nearly \$107 billion (in constant 1987 dollars), necessarily spread over at least 7 years. As table 4 also suggests, the United States could readily assume responsibility for 75 percent of this total. That is the case, in part, because the \$80.1 billion charged to the United States need not result in any real increase in the U.S. defense budget. Cancellation of inefficient strategic nuclear and naval programs would more than cover that amount over the next seven years.

The United States, admittedly, provides a major part of allied nuclear and maritime capabilities. It must also cope with other problems and responsibilities. Still, it can well afford to reallocate existing defense resources and increase from 46 percent to 48 percent its share of the total investment in the defense of Central Europe. At that rate, the U.S. contribution would still be smaller as a percentage of gross national product than that of other allies in the region. Given the stakes, it is hard to argue that the U.S. share of the NATO burden now is or would become too large.

Restoring Effective Government

*A Conversation on Constitutional Reform
with Lloyd N. Cutler, James L. Sundquist,
and Paul E. Peterson*

TWO HUNDRED years ago, in September 1787, the Constitutional Convention completed drafting the Constitution of the United States and submitted it for ratification by the states. Among the many organizations formed to study, discuss, and otherwise celebrate the bicentennial of this historic charter is the Committee on the Constitutional System. This nonpartisan group of current and former government executives and legislators, scholars, and others believes that the shortcomings of our modern political and governmental system are to some degree attributable to the structure built by the Constitution. The committee has published a report recommending several actions — some of which would involve constitutional amendment — that they believe would restore responsible and effective party government.

The Review recently asked two members of this committee to discuss some of its proposals. Lloyd N. Cutler, partner in the Washington law firm of Wilmer, Cutler & Pickering, was counsel to the president during Jimmy Carter's term. A member of the Brookings board of trustees, he is a founder and cochairman of the Committee for a Constitutional System.

James L. Sundquist, senior fellow emeritus in the Brookings Governmental Studies program, is the author of numerous books and articles on various aspects of our political and governmental institutions. Among them are *Constitutional Reform and Effective Government* (1986), *Dynamics of the Party System* (1973, 1981), and *The Decline and Resurgence of Congress* (1981).

Paul E. Peterson, the moderator of the discussion, was the director of the Governmental Studies program at Brookings when this interview was conducted. Now the Benjamin H. Griswold III Professor of Public Policy and director of the Center for the Study of American Government at Johns Hopkins University, Peterson is the author or editor of several books on the nation's governmental system, most recently, *When Federalism Works* (1986) and *The New Direction in American Politics* (1985).

The following article is an edited transcript of their taped conversation.

Peterson: In this bicentennial year, most people are celebrating the Constitution of the United States, saying it is one of the most marvelous documents for governing a nation ever prepared. I understand that you two gentlemen are in favor of reforming one of its central components, the part that calls for the separation of powers between the legislative and the executive branches. Lloyd, why is there a need for this reform?

Cutler: Paul, I think I would disagree with the premises that you have put to us. We too celebrate the 200th anniversary of the Constitution. We also agree that it is one of the greatest charters for governing ever devised. We have no basic quarrel with the fundamental concept of separation of power.

We do think that over the past 50 years, especially in the last 20 to 30 years, massive failures have developed in the sum of the results, the sum of the outcomes that the federal government is achieving. Constant stalemate between the executive and legislative branches has left the government unable to take decisive action on any number of problems, of which the budget and trade deficits may be the most severe examples. We identify these failures with the decline in the strength of the political parties. Voters no longer have the party consciousness they used to, and in consequence of that, party cohesion among the elected representatives of each party has gone way down. We think that the problem requires correction and that corrective measures may have to extend to some provisions of the Constitution.

Peterson: Jim, what do you see as the central problem that calls for constitutional reform?

Sundquist: I would probably go a little farther than Lloyd and say that the separation of powers is essentially a weakness in our system that we need to overcome. It is important to remember that the Founding Fathers themselves changed their mind on this subject. Initially they set up what they conceived as a nonpartisan government. The founders condemned the political parties that were then beginning to appear — which they usually referred to not as

Opposite page, from left to right: Lloyd N. Cutler, James L. Sundquist, and Paul E. Peterson.

"parties" but as "factions" or "cabals" — in the most extravagant terms. And they did their best in the Constitution to set up a structure that would divide the government so that no single group or faction — that is, party — would ever get control of both the legislative and the executive branches.

As soon as they tried to operate the government, they discovered they had to have parties to make it work. Within George Washington's first term, they repudiated their own essential concept, and by 1800 we had full-fledged national parties, each seeking control of the entire government with complete slates of candidates for president, vice president, and the House of Representatives.

The political party is the institution that has overcome the founders' design and made the system work. The parties held the government together and gave it enough unity to be able to act throughout the 19th century and the first half of the 20th century. But, as Lloyd points out, our parties have gotten notoriously weak. A momentous change has taken place since the 1950s, a change that is not really appreciated in this country. Most of the time now we have a government divided between the two parties. When that happens, the natural competition between the parties becomes a conflict between the legislative and executive branches, which try to discredit and block and obstruct and defeat each other. Under those circumstances, the government simply does not work well.

Peterson: Some people have said that the division of power between the political parties actually has some valuable aspects to it. It didn't prevent the passage of tax reform; some people think that it helped the passage of tax reform. Moreover, when there is executive mismanagement or abuse of power such as we're currently experiencing with the Iran-contra affair, then we have got the legislative branch to act as a check. How is the kind of change that you are talking about likely to affect this system of checks and balances?

Sundquist: There are two sides to this argument, of course, and we represent one of the sides. The other side is that government ought to be ineffective, it ought to be indecisive, and there ought to be a very high degree of bipartisan consensus before it can act. Over the years, that has been the conservatives' position. They have been in

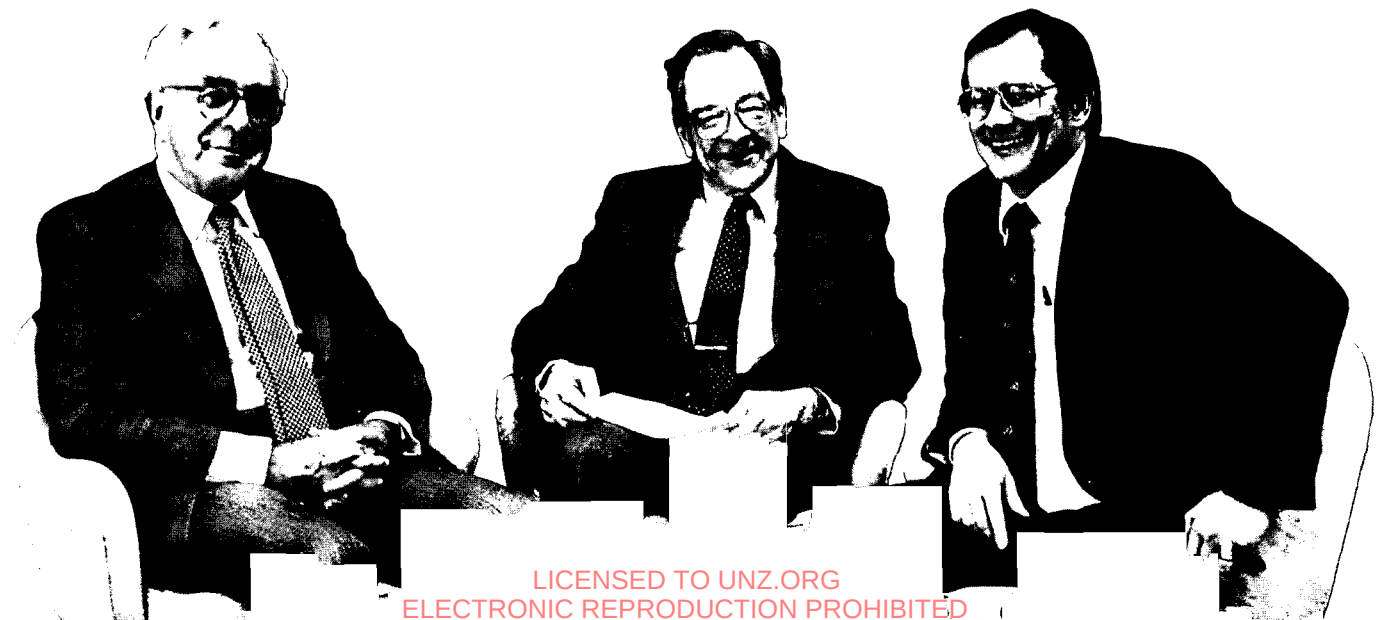
favor of the separation of powers because it holds the government back.

If you think that it is less dangerous to have an indecisive, ineffective government, one that can't act and make mistakes, then you would be in favor of the present system. But as one of the leading "movement conservatives," Paul Weyrich, said the other day, from the standpoint of the ultra-conservatives this government isn't working well either, because even though Ronald Reagan won what looked to be a mandate running on a conservative program, he has been unable to get much of it enacted.

Cutler: We are not talking about basic changes in the separation of legislative and executive power. Despite that separation, the government functioned reasonably well throughout its history in its ability to make decisions. Why? Because for most of the time one party had control of both the White House and both houses of Congress. In fact, there were only three successful presidential candidates in the 19th century who came into office without carrying a majority of Congress for their party. In the 20th century it never happened that a president was elected without carrying the majority of both chambers until Dwight Eisenhower's second election in 1956. Since then it has happened five times out of eight, and in the last 20 years it has happened four times out of five. The point is that divided government hardly ever produces useful results.

The essence of the difficulty is that the voters don't think along party lines anymore, and as a result, parties have become passive instruments by which any candidate can get himself elected. Parties don't pick candidates. Parties don't supply the money to candidates. Candidates come under the influence of direct contributions — very divisive contributions — from pressure groups, which have learned that they can have much more influence by giving directly to the candidate than by giving indirectly via the party. As a result Congress has become a virtual town meeting.

The real issue is whether you can govern this complex a country in this complex an era by a national town meeting in which 535 legislators and an elected president all make up their own minds, don't stick together, form different coalitions on every single issue, and essentially conduct themselves as if each is the button pushed by a national, state, or district opinion poll.



Strengthening the Parties

Peterson: What would you recommend to strengthen the political parties?

Cutler: We think the problem must be addressed at several levels. First, to build cohesion within the party, we would very much favor giving the winners of the nominations for House and Senate seats, plus the holdover senators, as large a voice as possible in national presidential nominating conventions. If 535 members and potential members of Congress were involved in naming the presidential nominee, that might make a very considerable difference. Second, we think it is very important to get hold of the problem of almost unlimited campaign financing by interest groups giving directly to candidates. Somehow or other, the whole process of financing candidates should be put back into the hands of the parties.

We also think it is desirable to encourage voters to think about parties much more than they do. We have given up any notion that one could compel voters to do that, for example, through a team ticket in which each party's nominees for president, vice president, and the House and Senate would run, and be voted for, in each congressional district as a team. We do think that if there were a four-year House term and all legislators had the same time horizon as the president of at least four years, then voters would think more in party terms than they do today.

Today all House members and a third of the senators face an election every two years. Given that kind of political pressure, few politicians are going to support legislation that might have long-term benefit but short-term pain. It is a maxim in Washington that nothing can be done about the deficit in an election year, and every other year is an election year.

Sundquist: When Lloyd says that constitutional reformers have given up on the notion of a team ticket, I think he indicates the dilemma confronting the reformers, including the Committee on the Constitutional System. They have identified divided government as the major problem overriding all others, and then they have said nothing can be done about it. I agree that the notion of prohibiting voters from splitting their tickets — requiring them to vote for a party slate — would be unacceptable to the general public under the present circumstances. It is unacceptable as well to most members of Congress, who would not want to be tied on the ballot to their parties' presidential candidates.

But in this bicentennial year, the team ticket is the kind of issue that ought to be talked about. If you believe, as Lloyd does and as the Committee on the Constitutional System does, that we need responsible party government, you simply cannot get it when the government is divided between the opposing parties. None of the proposed remedies most likely to be adopted will move the country very far toward responsible party government. And so the notion of the team ticket needs to be discussed. Some day, perhaps, if things get bad enough, people will say we really do need a remedy that will work, and in that case there it is.

The team ticket is not all that radical. We now vote for a party ticket for president and vice president. We didn't in the early years of the Republic, but it was discovered that having a president and vice president from opposite parties did not make any sense and would not work. The Constitu-

*"... we think it is very important
to get hold of the problem of almost*

unlimited

campaign

financing by

interest groups

giving directly

to candidates.

Somehow or other,

the whole process of financing

candidates should be put back into

the hands of the parties."



tion was amended on that point, and we could simply expand the party slate from president and vice president to include party candidates for the Senate and House.

Straight-ticket voting was virtually compulsory throughout the 19th century because the parties themselves printed separate ballots — each a team ticket — and the voters chose one. So it has a great tradition in the United States. But then we adopted the secret ballot, which encourages ticket-splitting or at least makes it easy, and the result has been the disintegration of the system that the Founding Fathers adopted once they tried to run the government, that the people supported for 150 years, and that every politician in both parties favors: unified control of the government by a single party. That system simply needs to be restored.

If it isn't, then the whole notion of strengthening parties works against the very objective that Lloyd talks about, because if you have stronger parties in a divided government, the confrontation between the branches of government is going to be even more severe. The only reason that the Reagan administration and other Republican presidents have been able to get anything out of the Democratic Congress is that they have been able to pull the weak Democratic party in Congress apart and form shifting coalitions of support. That tactic worked very well in 1981. If we had had strong parties, nothing would have been accomplished in 1981 either. It would have been like 1982 through 1987, when the government has been in a hopeless stalemate on major issues such as the deficit.

Peterson: What steps would you take to return control of campaign financing to the parties?

Cutler: We have two proposals. The first would set up a public financing system for congressional races similar to the system already in place for presidential campaigns. The funds could only be used to finance campaign broadcasts and would be given out only on the condition that the parties and the candidates spend no other funds on broadcasts. Half of each party's funds would go directly to its House and Senate nominees, but the other half would go to the congressional campaign committees of each party to be distributed as they saw fit. Not only would such a distribution help each party maximize its chances of gaining a legislative majority, it would help build party loyalty and cohesion among incumbents and candidates.

This proposal could be enacted by Congress. Our second recommendation would require a constitutional amendment. Our proposed amendment, which would allow Congress to set reasonable limits on campaign expenditures, would serve two purposes. It might encourage able people who cannot now afford to run for Congress to seek office. And it would reduce the influence of the special interest groups, which in turn would help bring about a more cohesive government.

Eliminating Midterm Elections

Peterson: Let me ask you about your proposal to lengthen congressional terms. You call for four-year terms for members of the House of Representatives and eight-year terms for members of the Senate. It would seem to me that a truly unified government would have a four-year term for the Senate, so that senators too would be up for election with the president.

Cutler: We all agree with you, I think. The proposed eight-year Senate term is a bow to political reality. We don't favor a constitutional convention, and we don't see how the Senate could be persuaded to vote by a two-thirds margin for a constitutional amendment that reduced its term. It seems to us there is little relevant difference between six years and eight years, particularly weighed against the value of getting rid of the so-called midterm election in order to have concurrent terms.

However, the central feature of that proposal is the four-year term for members of the House, which means they would be elected at the same time as the president. If we had to live with the present six-year term for the Senate, with one-third elected in the president's midterm, that wouldn't be too bad. Congress would still have a much greater opportunity than it has today to legislate. Incumbents would be relieved of some of the pressure of campaigning and raising money, which they themselves say now takes roughly three-quarters of their time. And by having fewer elections, the cost of campaigning for the House would more or less be cut in half.

Sundquist: The real rationale for the four-year House term, though, is not to make life more convenient for members of the House but to eliminate the distraction of the midterm election. Midterm elections come along too soon and distract everybody concerned — the administration as well as the House and Senate. There is just no breathing space for them to make the difficult decisions without risking their reelection chances. If you kept the

midterm election for the Senate, a large element of that difficulty would still be with us.

Peterson: One of your intriguing suggestions is that members of Congress should be allowed to serve within the executive branch. It is interesting to note that when recent presidents have found themselves in trouble, they've looked to specific members of Congress or former members for help. President Carter turned to Senator Edmund Muskie during the Iran hostage crisis, and President Reagan has turned to former Senator Howard Baker to help him recoup from the Iran-contra crisis.

Cutler: After having tried Senator Paul Laxalt.

Peterson: So we see presidents see political advantage in such arrangements. The one disadvantage that struck me is that senators and representatives have to be concerned about being elected back in Texas or Oklahoma. If they are also serving in the Cabinet, they have to worry about national policies and national interests. How do they resolve the potential conflicts?

Cutler: All we are proposing is to remove the constitutional impediment, the absolute bar against a sitting member holding any office in the executive branch and to allow experiments to see what would happen. An infinite variety of possibilities occur if the bar is removed. For example, a president could pick some senior member of a committee, not necessarily the chairman, who is from a safe district and therefore really does not need to worry about his reelection that much. Well over 50 percent of the districts are safe districts. A member of Congress could

"The real rationale for the four-year House term, though, is not to make life more convenient for members of the House but to eliminate the distraction of the midterm election."



"The senators, representatives, governors, and other party leaders are the people who know the [presidential] candidates best, who have seen them up close, who can really examine their characters in a much more intensive and deliberate way than can the average voter. . . ."



become a Cabinet member or a White House legislative liaison staffer. Or he might become instead, let us say, an assistant secretary of defense for legislative affairs, depending on who he was. Dual officeholding would bring the two branches closer together.

We recognize that any president who wanted to bring the Congress in more closely could probably do so on an ad hoc basis, but it almost never happens. In my own view, the so-called separation of powers is far less a separation than a sharing. The essence of it is that neither branch can do anything without the other, and cooperation and sharing are vital to an effective exercise of that power. Our proposals are not meant, as some people fear, to increase the power of the president vis-à-vis Congress or to increase the power of Congress vis-à-vis the president, but to provide a better way in which they can share these responsibilities, which is the only way they can serve the public.

Selecting Presidential Nominees

Peterson: One of your proposals has to do with the way in which the nominating convention delegates are selected. You call for a greater role on the part of members of Congress. Isn't it likely to be the case that the primaries will still have a tremendous effect on the outcome of the selection of the president of the United States? Have you made any suggestions as to how we might revise our primary system?

Sundquist: The committee has not proposed changing the primary system. Again I suppose this is a matter more

of feasibility than of desire. Most of the members of the committee probably would like to see fewer primaries and a greater element of peer review in the selection process.

Even if members of Congress were to participate in greater numbers, I think your point is right. They would follow the primary results in their respective states; they would not repudiate the voters, their own constituents. Nor would members of Congress vote as a bloc in the convention. You can conceive of a close convention — although we haven't had one for a long time — where the members of Congress would make the difference, but it would be the exception and not the rule.

Cutler: I did make a proposal to solve that problem but it didn't get a consensus in our committee. I suggested that the parties reorder their conventions so that they are bicameral. One chamber would comprise the delegates as presently selected, and the other chamber would be made up of the nominees for the Senate and House races plus the holdover senators. To win the nomination for president, a candidate would have to carry both chambers. If different candidates carried different chambers, a runoff would be held in both chambers, with the result decided by a sum of the percentages in each chamber. Such a system would guarantee that the legislative nominees in effect accept the responsibility for picking the presidential nominee so that they are accountable for his performance. It would also guarantee that, once elected, the president would have to work more closely with his party's legislators. I think such a system would really enhance party unity among the elected officials in each party. It would also bring back the importance and excitement of the political convention.

Peterson: Let me bring up another reform that has been talked about but that you haven't proposed, and that is a national primary. The country might be moving toward a national primary. More and more states are turning to March as the time they select delegates to the national convention. Do you see this as a favorable development?

Cutler: I think there are problems with a national primary. This long pre-nomination campaign does have one virtue in that it gives the voter more opportunities to see the candidates and to assess them in different situations. But somebody who might win a national primary in March might talk himself out of his favorable position by his performance in June. He might say things or reveal what is perceived as a character weakness or an inconsistency or some other failing. So there is some value to a primary period that extends over a period of time. I think the notion of four regional primaries spread over time makes a great deal of sense.

Sundquist: I think the ideal situation is the one we had before 1968. From around the beginning of the century until 1968, we had some primaries in a minority of states. Not every candidate entered every primary as they tend to do now, but there were enough primaries to enable the candidates to go before the public and demonstrate their vote-getting appeal. But the party leaders who were selected through the convention process in the other states were in a position to veto the popular choice, and many times they did. The senators, representatives, governors, and other party leaders are the people who know the candidates best, who have seen them up close, who can really examine their characters in a much more intensive and deliberate way than can the average voter, who is

responding to a fleeting appeal on the television screen.

But I don't see any practical way of returning to that system. We seem to be stuck with a primary process in which 10 million people participate in each party, and it is hard to see how that process can be made anything other than a lottery.

Implementing Proposed Reforms

Peterson: If your proposals are to be adopted, isn't it necessary to have a national constitutional convention, or do you think it is possible that two-thirds of the House and Senate will approve any of these reforms?

Cutler: As you know, the Constitution permits amendments to be formally proposed in two ways, either by a two-thirds vote of both chambers of Congress or by a convention called by Congress at the request of two-thirds of the states. No effort to call a convention has ever succeeded, although supporters of a balance-the-budget amendment are within two states of the necessary number for a call. Our committee rejects the advisability of a constitutional convention because we think the method of going through the Congress allows for more deliberation and because the problems of selecting the members of a convention and controlling its agenda are almost insuperable.

For the last 20 years the Senate Judiciary Committee has been studying how a national constitutional convention might be organized. It has finally come out with a bill that would in effect provide for a convention of 535 members.

Each state would elect delegates equal in number to their representation in Congress. The committee bill would restrict the authority of the convention to the proposal that motivated the convention call in the first place.

Nobody knows whether such a system would work. For example, if the subject matter were balancing the budget, one could see the right-to-life people or the school-prayer people or the trade-protectionist people contributing money to candidates, organizing the election of convention delegates — and they would probably get a voter turnout greater than the 35 percent that we had in the last election — taking over the convention, and changing its agenda. Given the fact that the original constitutional convention violated its own instructions in three different ways, we don't think the courts or anyone else would intervene, and before it was finished, it might change the First Amendment and do a lot of things.

Now, it is perfectly true that the amendments would still have to be ratified, but I would have very little confidence in the outcome of a 535-person convention elected to debate and draft a workable set of amendments while performing under the television lights.

Sundquist: Neither would I, but I think the committee is again deferring to feasibility. The logic really is on the other side, in favor of a convention. The Continental Congress in 1787 could not have adopted a constitution. It had to set up a separate body that could go off by itself and think, rise above politics, rise above parochialism, and think the thing through afresh.

In any revision of the structure of the government, in redistributing power, there are winners and losers. Normally one party will see itself as the loser. Given the necessity for amendments to be approved by two-thirds of the members of Congress, you are not going to get bipartisan support for any structural change. Somehow, you have got to find a process that transcends the immediate interests of the Republican and Democratic parties.

You would think, for example, that on its face a four-year term would appeal to all the members of the House, that all of them would want it. When Lyndon Johnson proposed it in 1967, members looked to see how they would be affected. The Republicans decided it would hurt them, and that was the end of the proposal. Today the Democrats who look at it carefully are likely to conclude that this time they would be the losers, because they have been doing much better lately in the midterm elections, which would be abolished, than they have done in the presidential years. So the proposal won't get anywhere with the Democrats.

Peterson: Under what circumstances would Congress adopt some of these proposals? What is the context in which you think it might be feasible for these kinds of issues to get the attention of Congress?

Sundquist: Despite what I just said, the four-year House term and eight-year Senate term should have a great deal of intrinsic appeal. If it becomes clear that the only condition under which members can get longer terms is by having elections coincide with the presidential elections, it is conceivable that longer terms would have an outside chance of winning approval.

Cutler: That, and restoring the power of Congress to set limits on campaign spending. The level of public disillusionment with the present methods of campaign financing and expenditures is very high.

"... I would have very little confidence in the outcome of a 535-person convention elected to debate and draft a workable set of [constitutional] amendments while performing under the television lights."



Unintended Consequences of Federal Student Aid Policies

Kathryn Mohrman

FROM THE G.I. BILL in the 1940s to various grant and loan programs created in the 1960s and 1970s, federal dollars have expanded higher educational opportunities far beyond the economic and intellectual elites for whom a college education was once reserved. In addition to giving millions of students an opportunity to extend their educations beyond high school, these programs have benefited society by developing a better educated citizenry and indirectly supporting a rich diversity of colleges and universities that collectively add to the nation's wealth of knowledge. Over the last decade, two developments — a decline in the real value of student aid and a shift in emphasis from grants to loans — may have begun to erode the educational philosophy underlying the financial aid programs and perhaps even the public and private benefits those programs have yielded.

Measured in current dollars, total federal student aid has increased 9 percent from 1980–81 to 1985–86, from \$14.2 billion to \$15.4 billion. During these same years, the number of recipients jumped 22 percent; more than 9.4 million grant and loan awards were made in 1985–86, assisting the majority of all students enrolled in formal education beyond high school.

When the data are converted into constant dollars, however, they show that the real value of federal student aid declined significantly from 1981 to 1986, after increasing in the previous decade (see table 1). The value of a typical award has also fallen; the average Pell grant, the main grant program for disadvantaged students, dropped from \$504 to \$471 in constant 1974 dollars, while the average Guaranteed Student Loan (GSL) declined from \$1,255 to \$1,022 during those same years.¹ More students are sharing more aid dollars, but that aid is buying less education.

As significant as these decreases are, a more important change in student aid has been the shift from grants to loans. As figure 1 illustrates, in 1975 only 17 percent of federal assistance was in the form of loans, with the preponderance of support going to students as grants, veterans' benefits, and Social Security assistance. Ten years later, almost half of all federal student aid dollars were devoted to subsidies for student loans. In a single decade, loan programs intended originally for the convenience of the middle class have become the major funding mechanism helping needy students gain access to college. Recent estimates show that half of all undergraduates will finish their college careers with some debt. According to one survey, those students at public institutions who borrow will graduate with an average debt of \$6,685, while their counterparts at private colleges and universities will assume \$8,950 in debt on average.² Such obligations could mean that a typical liberal arts student earning \$16,000 in her first year on the job will use 9 percent of her pre-tax income for student loan repayment.³

A grant is not a loan, and paying for a college education through borrowing is

Kathryn Mohrman is a Brookings guest scholar from Brown University. She wishes to thank Robert Reischauer, Chuck Byce, and Jerold Roschwalb for their helpful comments on an earlier draft of this article.

not the same as financing a degree with work or scholarship aid. While loans are an effective and appropriate aid mechanism, they have different effects than grants on students and different implications for colleges and universities. This article examines three qualitative issues about the impact of these changes in student aid on undergraduate education: Are minority students discouraged from attending college by changes in financial aid programs? Are students altering their academic plans because of debt? And what are the implications of these changes for the quality of undergraduate education?

Minority Enrollments

The years of greatest growth in minority enrollments were also the years of substantial increases in federal student assistance. Throughout the 1970s, enrollments of blacks, Hispanics, Asians, and Native Americans grew both in absolute numbers and as a proportion of total enrollments. Between 1976 and 1980, undergraduate enrollments of all minority groups except blacks rose faster than the increase in enrollments among whites. The picture since 1980, however, has been mixed. Total enrollments are down 2 percent, but participation rates continue to increase significantly among Asians and slightly among Hispanics (see table 2). The distressing element is a 7 percent decline in enrollment among Native Americans and an 11 percent slide among blacks. These numbers are particularly discouraging because the percentage of minority youth graduating from high school is on the rise, yet success at the secondary school level is not translating into success at the college level. Today there are fewer black undergraduates than there were a decade ago.

Perseverance in college is also an issue. In 1983 when blacks represented more than 13 percent of the college-age population and 9 percent of undergraduate enrollments, they accounted for only 6 percent of the bachelor's degrees and fewer than 4 percent of the doctorates awarded by American colleges and universities. Blacks, Hispanics, and

Native Americans have educational attainments well below whites at every stage of schooling, and the record is not improving.

Limitations on student aid are often cited as an important cause of the downturn in minority enrollments. Both the decrease in grants and the shift from grants to loans strike especially hard at minority students from poor families who had relied on grants in the past to pay for a substantial portion of their college expenses. For example, about 40 percent of the students at historically black colleges come from families with incomes under \$10,000; the expected parental contribution for these students averages \$34 a year.⁴ These undergraduates rely on student aid, employment, and institutional support for virtually all of their college expenses. While they receive more scholarship dollars than their affluent peers, these students borrow just as frequently to finance their college education.

Dependence on loans as a major source of college financing also describes reality for many minority students in predominantly white institutions. At the University of Maryland, for example, 54 percent of blacks in the class of 1985, compared with 43 percent of whites, used loans to finance their undergraduate education, with blacks reporting a median debt level \$289 higher than their white classmates.⁵ Blacks and Hispanics who attend highly selective private institutions also report a greater dependence than whites on loans as a major source of financing for their education. There is little evidence from these statistics to indicate that black students are less willing than white students to borrow to go to college. But these and other studies look only at enrolled students and successful graduates. As the authors of a recent study of black college students point out, the statistics "do not reveal the number of students who would like to attend but do not apply, or apply and do not enroll, or enroll and soon drop out faced with mounting debt burden."⁶

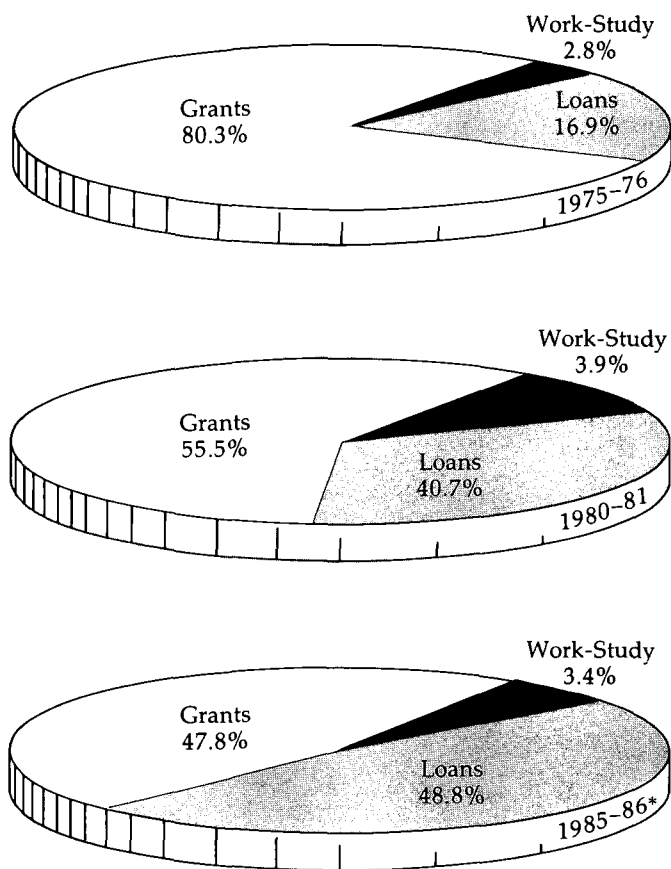
Furthermore, regardless of their willingness to incur debts to go to college, the burden of repayment falls harder

	1970-71	1975-76	1980-81	1985-86 estimate
Grants				
Current \$	1,770	6,493	6,545	4,839
Constant \$	1,770	4,619	2,914	1,787
Loans				
Current \$	1,297	1,772	6,957	9,835
Constant \$	1,297	1,261	3,098	3,633
Other				
Current \$	227	295	658	693
Constant \$	227	210	293	256
Total federal aid				
Current \$	3,295	8,560	14,161	15,367
Constant \$	3,295	6,090	6,306	5,676

Note: These figures include the full value of loans guaranteed by the federal government.
Source: Janet S. Hansen, *Student Loans: Are They Overburdening a Generation?* Report prepared for the Joint Economic Committee, U.S. Congress (December 1986), Table 16.

**Table 1. Total Federal Aid
Awarded to Postsecondary
Education Students**
(in millions of current and
constant 1971 dollars)

Figure 1. Distribution of Federal Student Aid Dollars to Grant, Loan, and College Work-Study Programs, 1975-76 to 1985-86



*Estimated; percentages may not add to 100 due to rounding.

Source: Janet S. Hansen, *Student Loans: Are They Overburdening a Generation?* Report prepared for the Joint Economic Committee, U.S. Congress (December 1986), Table 19.

on minorities than on their white male counterparts. Continuing disparities in income by race, even when controlling for other factors, mean that minorities are required to devote a larger percentage of their earnings to debt repayment than other students with similar loans.

How important is financial aid as a factor in the decline of minority student enrollments? Econometric analyses suggest that about 30 percent of low-income students of all races would drop out of school if grant awards were eliminated; in surveys of student opinion, about 45 percent of the same group said they could not enroll in higher education without grant aid.⁷ Comparable figures for middle- and high-income students were substantially lower. Compelling evidence on the implications of the growing dependence on loans comes from a longitudinal study of minority and white high school seniors in 1980; it found that government grants increase the likelihood of attendance at a four-year college or university, while loans do not affect participation in higher education.⁸ The shift

from grants to loans, then, is exacerbating the problems of helping disadvantaged students go to college.

Minority students in particular are sensitive to financial factors in deciding whether to go to college. An analysis of enrollment rates by sex and race provides evidence that economic variables influence the enrollment decisions of blacks but not of whites. Participation rates for both black men and women increased substantially from 1962 to the mid-1970s, but since then the rate for black men has declined while the rate for black women has remained unchanged. Regression estimates indicate that a decrease in the net cost of education or an increase in per capita income raises the enrollment rate of black women; participation of black men shows a statistically significant relationship with income but not cost. Whites demonstrate no meaningful correlation between participation and either educational costs or income. Between 1962 and 1984, the enrollment rate of white women rose steadily while that for white men peaked in 1969, apparently influenced by efforts to avoid the draft during the Vietnam War.⁹

It seems reasonable, then, to point to changes in federal student aid policies as inadvertent contributing factors in the decline of the numbers of blacks, Hispanics, and Native Americans now in college. The drop in both the number and the proportion of minority students in postsecondary education is disturbing for several reasons. Fewer blacks in particular will be qualified with a college degree to become the professionals that this nation will need in the years ahead. There will be smaller numbers of minority teachers in the future to serve as role models for the increasing numbers of black and brown children in the public schools. Institutions of higher education, under fire for the paucity of nonwhite faculty on their rosters today, are not producing sufficient minority baccalaureates to have much hope of developing more black and Hispanic professors in the future. While minority students suffer from the absence of blacks and Hispanics in faculty and administrative positions, white students are also disadvantaged by the lack of diversity on campus.

The patterns of minority participation are discouraging for another reason. Many studies have shown that one of the most important factors influencing the decision to go to college is parental educational level. If today's minority high school graduates choose not to participate in further education, out of concern for loan burdens or for other reasons, their children may not be as likely to go to college as the next generation of white and Asian students. Not only is this nation failing to reach its goal of equal educational opportunity for today's young people, but it is sowing the seeds for continuing gaps in the future.

Debt and Choice of Major

The academic majors of the undergraduates of the early 1980s look very different from those of college students 12 years earlier. As figure 2 illustrates, the total number of baccalaureate degrees rose by 130,000 over that period, yet the number of degrees earned in arts and science categories actually decreased. The growth in both numbers of degrees and proportion of the total earned came in job-related fields such as management, computer sciences, and engineering.

These shifts can be interpreted as responses to several factors. During the 1970s as the baby boom entered the

Table 2. Minority Participation in Undergraduate Education

Enrollment	1976	1980	1984	Percent Change	
				1976-1980	1980-1984
White	6,899,743	7,465,722	7,293,747	8.2	-2.3
Black	865,147	932,055	830,986	7.7	-10.8
Hispanic	323,540	390,440	399,333	20.7	2.3
Asian	152,533	214,989	284,897	40.9	32.5
Native American	61,267	68,708	64,051	12.1	-6.8

Source: "Minority Access: A Question of Equity," *Change* (May/June 1987), p. 36.

labor market, about two-thirds of all college graduates found jobs in professional and managerial occupations, compared with a 90 percent rate in the previous decade. Students responded to this less favorable labor market by developing specific vocational credentials. In addition, more freshmen every year report that being very well off financially is an important factor in their decision to go to college. And the pattern of student choice of major in the 1970s can be considered an aberration rather than the norm; the current popularity of technical and business majors mirrors the interests of students 25 years ago.

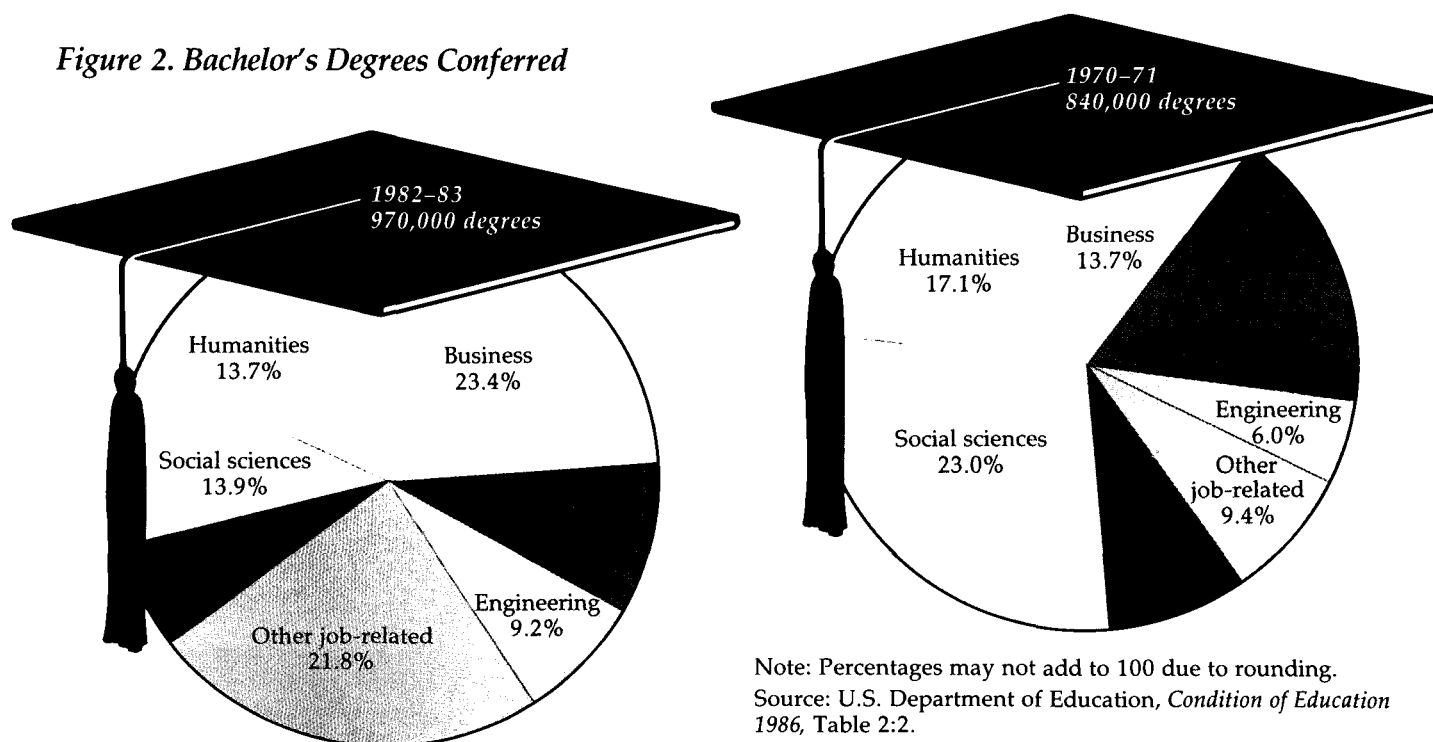
The need to repay educational loans is often cited as a reason why students have turned increasingly to courses of study that will ensure them of a high-paying job upon graduation. Empirical evidence on the issue is thin, but researchers are beginning to look more closely at this question.

A survey of undergraduates conducted by the Carnegie Foundation for the Advancement of Teaching in 1984 suggests that students who borrow heavily are concen-

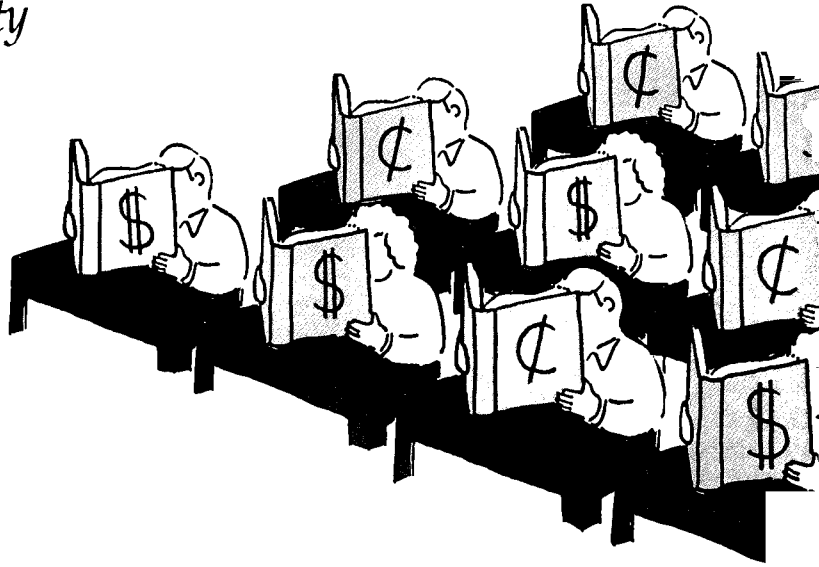
trated in fields that promise good employment opportunities immediately after college. The large debt accrued by business, engineering, and allied health majors correlates with the larger starting salaries these students receive after college, the report found. Likewise, the smaller loans taken by students in the social sciences and education correspond to the lower starting salaries offered to graduates in these fields. A look at patterns of major choice on several individual campuses reveals similar tendencies. Students with federal loans major more frequently in physical sciences and professional fields, while students without educational debts represent a larger proportion of majors in the humanities and social sciences.

The evidence that indebtedness influences choice of major, however, is neither consistent nor overwhelming; some of the campuses examined do not show differing patterns of major by financial aid status. Strong evidence against the linkage of loans and majors comes from the National Association of Student Financial Aid Administrators (NASFAA) in a survey of more than 600 borrowers

Figure 2. Bachelor's Degrees Conferred



"If students, particularly minority students, are discouraged from attending college or from completing a degree once enrolled because of fears of high indebtedness, then diversity and quality objectives are both diminished."



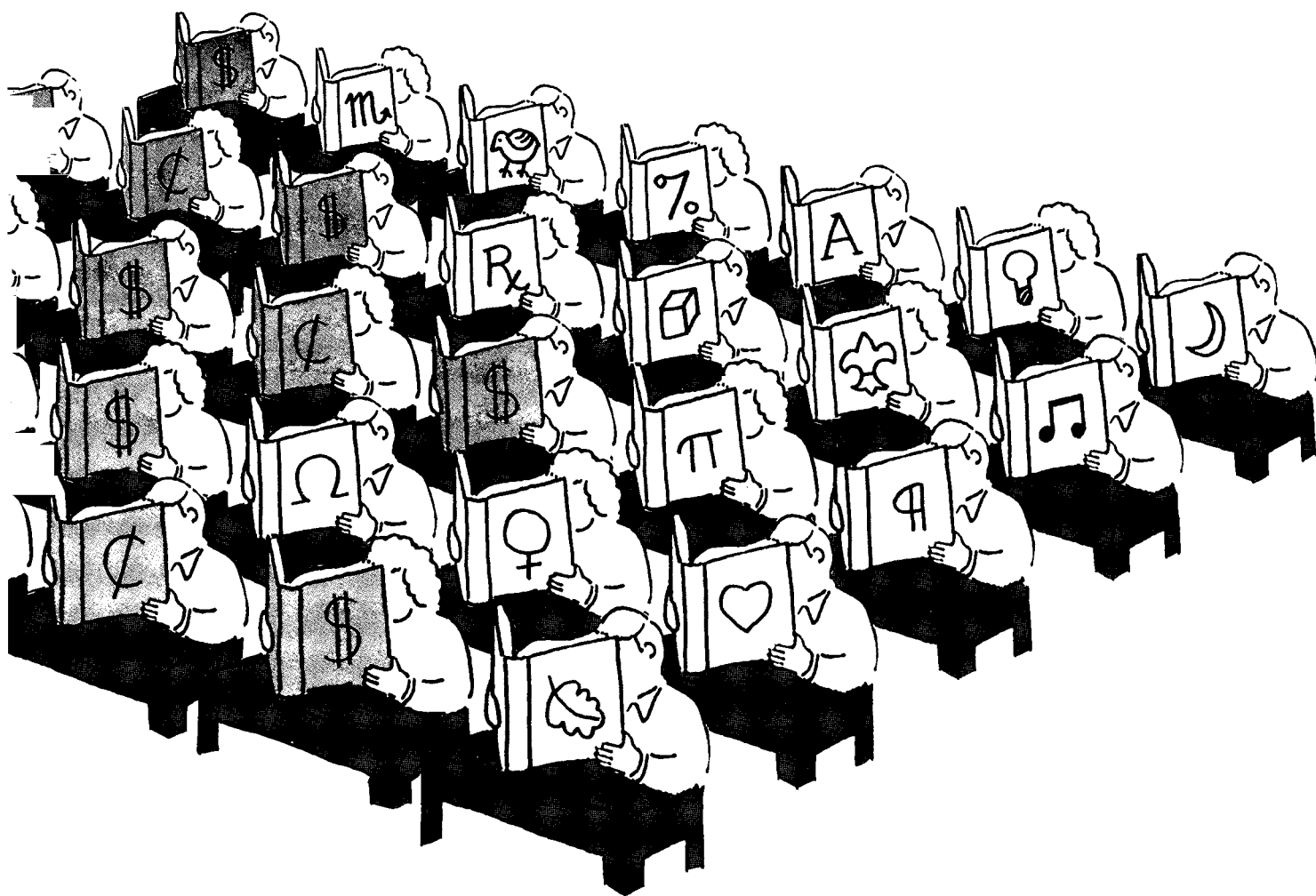
who were repaying their Guaranteed Student Loans in the spring of 1985. Most respondents disagreed with the statement, "My loan debt affected my choice of academic major or program"; 55 percent strongly disagreed, while only 4.5 percent strongly agreed. Similarly, a study by Edward St. John and Jay Noell finds that cumulative debt is not a statistically significant factor in choice of major when other variables are controlled.¹⁰

Can these contradictory pieces of evidence be reconciled? One possible explanation is that the correlation between majors and loan status is just that — correlation but not causation. The real reasons that needy students enroll more frequently in job-oriented fields may be other factors such as socioeconomic status or desire for substantial wealth soon after college. It should be noted, however, that the respondents to the NASFAA survey borrowed their money and, in most cases, completed their education some time ago; the mean GSL debt of the sample was \$4,390, nowhere near the estimated \$8,000 to \$10,000 debts being incurred by many college students today. Similarly, the students in the St. John and Noell study were choosing their majors in the early 1980s. The substantial increases in borrowing in the last few years may make all but the most recent data obsolete.

While these fragments of information produce mixed

results, a nagging suspicion remains that students are mindful of their debt status when making academic choices. Almost everyone can provide anecdotal evidence of an undergraduate who loves philosophy but is majoring in marketing instead because she needs to repay educational loans. Implicitly, too, organizations from Harvard Law School to the U.S. Department of Education are acting in ways consistent with a causal link between loans and academics; Harvard Law's loan forgiveness programs for students entering public service careers and the Education Department's experimental income-contingent repayment plans reduce the pressures on students to make educational and career choices solely on financial grounds.

One still might ask what difference it makes if students act rationally on their perceived self-interest, if poor students with loans choose engineering or business administration more often than their classmates who have not borrowed. Those observers who believe that the liberal arts contribute to the quality of public life want all students to consider education as more than vocational preparation. If increasing indebtedness forces some undergraduates to limit themselves to certain segments of the curriculum, then one unintended consequence of the shift from grants to loans may be to encourage greater academic differences among students based on economic circumstances.



Implications for Educational Quality

Federal grants and loans are based on economic need, not academic merit, so financial aid policy does not address student achievement levels directly except to require minimum standards for good progress. But the composition of student aid can influence the educational experience on campus. Martin Kramer and William Van Dusen speak of the "invisible dropouts," students who, in an effort to avoid high indebtedness, work more hours at student jobs, shun courses with extra laboratory charges or special time commitments, and forgo the benefits of extracurricular activities.

Active involvement in the total learning process is widely recognized as an important factor in students' academic achievement levels, yet financial pressures drive some students to choose minimal engagement instead, cheating both themselves and the taxpayers subsidizing their tuition. While such students get degrees, they do not get the most from their education.

Beyond student achievement, educational quality can also be defined as diversity at both individual and institutional levels. If students, particularly minority students, are discouraged from attending college or from completing a degree once enrolled because of fears of high

indebtedness, then diversity and quality objectives are both diminished.

As federal grant aid declines, institutions are devoting a larger percentage of their own resources to student financial aid. Between 1979 and 1984, all institutions of higher education taken together increased their scholarship and fellowship budgets from 4.9 percent to 5.2 percent of their total educational and general expenditures. The increase came completely from independent institutions; private doctoral universities raised their budget share for financial aid from 8 percent to 8.7 percent, comprehensive universities went from 9.3 percent to 10.2 percent, and four-year colleges increased from 12 percent to 13.6 percent.¹¹

At least some of these institutional financial aid funds have been devoted to maintaining a heterogeneous student body in terms of income, socioeconomic status, and ethnicity. To achieve the goal of diversity, however, the funds for student aid are being siphoned from other purposes, in some cases from expenditures on instruction, library resources, and other direct educational functions. And since institutional financial aid budgets have not increased as rapidly as federal aid has declined in purchasing power, the result may be an unhappy situation in which none of the desired objectives is reached. A smaller proportion of available resources may be spent on faculty

salaries, books, and other academic purposes, yet the reallocated funds may not achieve the goal of a diverse student body because fewer total dollars are available for student support.

The cutbacks in student aid funds threaten diversity in another way. Undergraduates report in surveys that federal grants and loans have allowed them a greater range of institutions from which to choose. Because student aid levels vary somewhat with tuition charges, students have more freedom (some analysts even say incentives) to enroll at higher-priced institutions. Federal aid thereby serves as an indirect subsidy for private colleges and universities that attract and serve students well; in the process the financial aid system helps to maintain diversity of institutional size, academic orientation, religious affiliation, and curricular emphasis within higher education. Reducing student aid may thus reduce institutional diversity to some extent. While it is in no one's interest to insist on the continued existence of every college and university in operation today, institutional diversity strengthens the market in higher education, serves the needs of a heterogeneous student population, encourages educational innovation, and safeguards academic freedom. The quality of the American higher education system is derived in part from the range of institutions it encompasses.

Academic quality can also be viewed as educational coherence. While the federal government has been careful not to address curriculum matters directly, financial aid programs do have implications for academic offerings. Federal student assistance has provided stability for many colleges and universities; because aid awards are sensitive to tuition charges, the benefits have been especially strong at private institutions lacking the stability that state appropriations provide public institutions. These private colleges are traditionally the strong advocates of undergraduate education and the liberal arts. The federal investment in student aid, then, has the indirect effect of maintaining a strong base of colleges and universities with a commitment to liberal learning.

But the composition of that investment — the shift from grants to loans — may undermine the liberal arts curriculum. Frank Newman, president of the Education Commission of the States, expresses the fears of many educators with this assessment: "A federal student aid plan that says to a student, 'There is help available if you work,' places work in service to learning. This is quite different from a program that says, 'You may borrow money and pay it back out of the higher earnings you can expect.' Such a program places learning in service to work. The values that each of these programs promotes are almost directly reversed."¹²

As loans become an increasingly prominent form of student financing, they reinforce utilitarian and instrumental values, according to one analyst who described the pressures on students this way: "The incentive of loans [from the student perspective] is to position yourself through your coursework, major, and degree for a higher-paying job that more readily permits repayment of the loan. In effect, college becomes less and less something done for its own sake and more and more something done for what comes afterward." He admits that these trends are not totally unhealthy but worries that as reliance on loans increases, students are less likely to "dally" with the contemplations of liberal and civic learning or to "sacrifice"

to develop general competencies.¹³ Students have always viewed education as both useful and inherently valuable; the concern of many educators today is that dependence on borrowing is one contributing factor to unnecessarily heavy emphasis on practical considerations at the expense of the broader purposes of a college education.

What, then, is the solution? Proposals to reform the financial aid system abound in Washington and state capitals; their thrust is to change the structure of the student assistance system, not merely to increase appropriations for existing programs. While the details of specific plans vary, many of the proposals emphasize incentives for families to save for college, elimination of unnecessary subsidies, targeting aid on the neediest students, and a more balanced combination of grants, loans, and work. One common element in most of these approaches is a redirection of much of the federal spending for loan subsidies back to grants for needy students, whether the reason given is economic efficiency, simplification of programs, or fairer treatment of the disadvantaged.

This article suggests that such changes in student aid would also strengthen important academic and social values now unintentionally discouraged by current policies. Reforms in the balance of grants and loans made for economic or equity reasons are also likely to improve the quality of undergraduate education in the United States.

1. Center for Education Statistics, U.S. Department of Education, *The Condition of Education 1986*, Table A14. The figures are deflated by the Higher Education Price Index.

2. College Scholarship Service and National Association of Student Financial Aid Administrators, *Survey of Undergraduate Financial Aid Policies, Practices and Procedures*, forthcoming.

3. Janet S. Hansen, *Student Loans: Are They Overburdening a Generation?* Report prepared for the Joint Economic Committee, U.S. Congress, December 1986, Table 21.

4. Alan H. Kirschner and Julianne Still Thrift, *Access to College: The Impact of Federal Financial Aid Policies at Private Historically Black Colleges*, United Negro College Fund/National Institute of Independent Colleges and Universities, 1987, p. 14.

5. Office of Vice President for Policy and Planning, University of Maryland Central Administration, *The 1984-85 University of Maryland Bachelor's Degree Recipients*, March 1987, p. 13.

6. Kirschner and Thrift, *op. cit.*, p. 20.

7. Paul Brinkman, "The Effects of Student Financial Aid on Access, Choice, and Persistence," Summary of remarks made at an American Council on Education meeting on student aid, February 26, 1987.

8. J. Brad Schwartz, "Wealth Neutrality in Higher Education: The Effects of Student Grants," *Economics of Education Review*, 1986, vol. 5, p. 111.

9. Barry P. Bosworth, Andrew S. Carron, and Elisabeth H. Rhyne, *The Economics of Federal Credit Programs*, Brookings, 1987, p. 139.

10. Edward P. St. John and Jay Noell, "Student Loans and Higher Education Opportunities: Evidence on Access, Persistence, and Choice of Major," Paper prepared for the fourth annual NASSGAP/NCHELP Research Network Conference, Washington University, June 1987.

11. Center for Education Statistics, *op. cit.*, Table A13b.

12. Frank Newman, *Higher Education and the American Renaissance*, Carnegie Foundation for the Advancement of Teaching, 1985, p. 9.

13. Theodore J. Marchese, "Fulfilling the Institution's Responsibilities to Student Borrowers," *Proceedings of the College Scholarship Service Colloquium on Student Loan Counseling and Debt Management*, December 1985, p. 14.

Liberal Arts Colleges: Can They Compete?

Robert S. Eckley

SEVEN YEARS AGO, as the academic community awaited what was expected to be a debilitating decline in the college-age population, the Carnegie Council on Policy Studies in Higher Education backed away from predicting how many of the nation's 750 liberal arts colleges would close by the year 2000. "Recent estimates have suggested that 200 might close or that 200 might survive," the panel wrote in 1980. "Too much depends on private actions and public policies that are as yet undetermined to make such estimates anything more than a wild guess."

It now appears that even the most sanguine of those estimates may have been too pessimistic. Although the college-age population will shrink by 22 percent from the early 1980s to the mid-1990s, enrollment experience for all of higher education, including liberal arts colleges, indicates that institutions are coping well so far. The number of high school graduates attending college has increased marginally, as has enrollment of older adults, particularly women. Thus it seems likely that the great majority of liberal arts colleges will survive into the 21st century. The question is whether as a group they will thrive in an increasingly competitive environment.

Since World War II, federal and state policy has promoted the expansion of public higher education. Private liberal arts colleges have also grown in both enrollment and number, but they play a much reduced role in total higher education. In 1950 enrollment was about evenly divided between public and private colleges (see table 1). Since then enrollment has increased nearly six times, and the majority of those students have chosen to attend public institutions. Today state universities attract almost half of all full-time students; public community colleges enroll 25–30 percent. Private universities and liberal arts colleges each attract nearly 10 percent, and the remaining students attend specialized institutions, private junior colleges, and proprietary institutions.

Students have turned to public colleges and universities for two main reasons. Because the states cover most of their operating costs through taxation, public institutions are cheaper to attend than most liberal arts colleges. And public institutions permit students to specialize in courses of study that are often promoted as offering ready entry into the working world. Private liberal arts colleges continue to contribute needed diversity and many vigorous competitive alternatives in American college life. That diversity is diminished, however, as a result of the rapid expansion of public schools and of public regulatory actions that impose uniform standards and therefore uniform responses on colleges. This article examines the strengths and weaknesses of liberal arts colleges and evaluates the role they can play in the future of American education. Their continued vigor and significance depends on how well they overcome their problems and how successfully they promote their strengths.

Robert S. Eckley was the president of Illinois Wesleyan University from 1968 to 1986. He was a visiting fellow in the Brookings Economic Studies program when he wrote this article.

*"These colleges contribute
much of the yeast
in American higher
education — a 'bewildering
variety of alternatives,'
as one observer
recently noted —
as well as an abundance
of its tradition
and nostalgia."*

**Table 1. Enrollment in Higher Education
Full- and Part-time Students (in thousands)**

Year	Public	Private	Total*
1950	1,154	1,142	2,297
1960	2,137	1,474	3,610
1970	6,476	2,173	8,649
1980	9,457	2,640	12,097
1981	9,647	2,725	12,372
1982	9,696	2,730	12,426
1983	9,683	2,782	12,465
1984	9,460	2,782	12,242
1985	9,479	2,768	12,247
1986	9,600	2,797	12,398

*Totals do not always add due to rounding.
Source: U.S. Center for Education Statistics.

Wealth of Diversity

Liberal arts colleges are overwhelmingly undergraduate teaching institutions; that is their mission. Although these colleges participate in research and have their public service dimensions, their curricular design stresses a strong program of humanities, sciences, and social sciences. The faculty's main emphasis is on teaching and learning; research, writing, and other nonteaching activities are given lower priority.

These colleges contribute much of the yeast in American higher education — a "bewildering variety of alternatives," as one observer recently noted — as well as an abundance of its tradition and nostalgia.¹ Wide variation persists in quality as in other characteristics, but the liberal arts college exists as a building block in history and organization. All nine colonial liberal arts colleges evolved into major universities, many other contemporary universities began as liberal arts institutions, and most universities are grouped around a core college of arts and sciences.

Liberal arts colleges make up more than a third of all baccalaureate-degree-granting institutions. Most of them enroll between 500 and 2,500 students; the average size is about 1,100 students. A third to a half of these colleges are located in small towns, depending on how proximity to major cities is reckoned. These schools are as diverse as Amherst and Williams, Midland Lutheran in Nebraska and Tougaloo in Mississippi, St. Mary or St. Mary's (ten in eight states) and Berea (only one, in Kentucky).

The majority of liberal arts colleges as well as many major universities owe their origin to religious organizations, to that unique aspect of voluntarism and charitable work in American culture that Tocqueville praised as early as 1835. That tradition is by no means extinct, but the identification of many liberal arts colleges as sheltered environments because of their affiliation or historical association with religious bodies is no longer accurate. Except in a limited number of evangelistic Protestant colleges, protected enclaves do not exist. Most mainline Protestant and Catholic colleges loosened their religious ties in the 1960s if not earlier and in the post-Vatican II changes. What now is typical are residual ties to a denomination through the school's governing board, expressions of religious concerns in chapel and other voluntary meetings, and a minority constituency from the sponsoring church. Distinctive environments are still found at many Lutheran, Roman Catholic, and other institutions, for ethnic as well as for religious reasons. The traditional black colleges, about 50 in number, still play a role out of proportion to their size and number in starting black youth in higher education.

Competitive Disadvantages

In the competition for students, liberal arts colleges must contend with several disadvantages. The first is price. Price and cost inflation is a problem for all of higher education, but is not as apparent for public institutions because their tuition charges are heavily subsidized by the states. Since 1970 tuition and fees at independent institutions have increased more rapidly than personal income after taxes (see table 2). Beginning in 1980 tuition and fees for all institutions have gone up faster than any other component

Table 2. Average Annual Percentage Rates of Increase for Tuition and Fees, Other Measures

Category	1970-71 to 1980-81	1980-81 to 1986-87	1970-71 to 1986-87
Tuition and fees			
Independent institutions	7.6%	9.9%	8.4%
Public institutions	6.1	9.8	7.5
Consumer price index	7.8	4.9	6.7
Disposable personal income, per capita	9.2	6.5	8.2
Medical care	8.3	8.5	8.3

Source: Arthur Hauptman and Terry Hartle, "Tuition Increases since 1970: A Perspective," *Higher Education and National Affairs*, American Council on Education, February 23, 1987, special insert.

of consumer prices. Some of that rise is a belated response to the rapid inflation of the late 1970s when tuitions did not increase as much as other prices. Furthermore, education is labor intensive and not able to benefit from productivity improvements as much as other sectors of the economy. All colleges and universities must soon find ways to mitigate their tuition increases. But that does not obscure the fact that most independent institutions must charge higher tuition than public colleges and universities.

Indeed, "sticker shock" is not uncommon among prospective students and their parents doing comparison shopping. Tuition charges at liberal arts colleges are often three to five times higher than the charges at four-year public institutions. A comparison of tuition charges alone, however, overstates the differential. Because room and board, books, personal expenses, and transportation costs are similar for the two types of institutions, the total price for attendance at the public university is more likely to be about 60 percent of the private college charges. In addition, for those who qualify for financial assistance — now half to three-fourths of those attending most private institutions — the "net" price difference may be much less, in some cases, negligible. The question is whether families who can afford it are willing to pay the difference. Studies have indicated that price differentials do affect college choice.²

By providing tuition subsidies at public institutions and financial aid to students at public and private institutions, states and the federal government have vastly increased access to higher education. Almost any qualified student can attend some institution of higher learning regardless of economic circumstances. While greater access is a laudable policy goal, two developments work to narrow, at least indirectly, the choice of school available to all but the wealthiest students. Since the beginning of the decade, the amount of federal aid going to students in the form of grants has shrunk by nearly 25 percent, while the amount available in loans has grown by 50 percent (see table 3). Many students are reluctant to take on the added debt burden and are thus more inclined to opt for the low-tuition public institutions. As a result, greater reliance for the provision of choice has been thrust onto the private sector institutions and their ability to raise financial aid funds.

Second, the cost differential between public and private institutions is widening because regents and trustees of public institutions have been loath to increase tuition as

rapidly as costs rise, causing inflation to be another source of increased subsidy. As a result the gap between public and independent higher education prices has widened in the last 15 years, in both absolute and relative terms, making liberal arts colleges increasingly less competitive and less available to students of limited means.

Since the average costs of providing higher education are similar in public and private institutions, the question must be asked whether society as a whole benefits from the tuition subsidy for all, regardless of means, at public colleges and universities. Public commissions have repeatedly emphasized the better economy of charging higher tuition and providing financial aid for students in need. Federal and state governments could help keep the option of independent higher education available to all, at a fraction of the cost of financing public alternatives, by providing grants based on need.

Resources

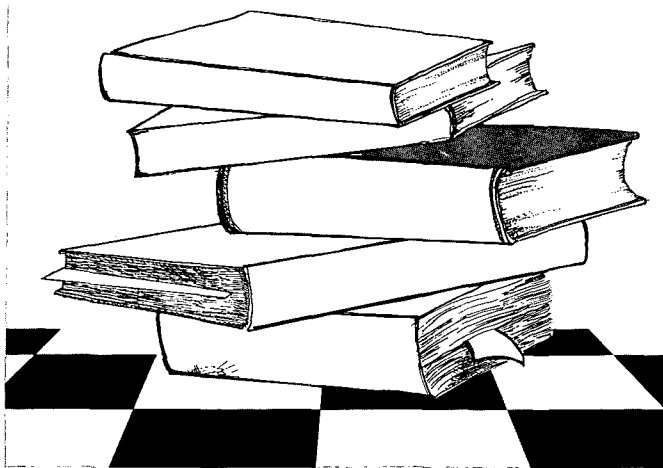
Another question affecting competitiveness is whether the limited scope of liberal arts colleges and the level of resources available to them unduly constrain their teaching program. The answer for most liberal arts colleges is that

Table 3. Trends in Student Aid, 1980-81 to 1985-86 (in millions of dollars)

Category	1980-81	1985-86 (estimate)	Percent Change
Federal grants	\$ 6,545	\$ 5,015	-23.4%
Federal loans	6,957	10,500	+50.9
Federal work-study	658	693	+ 5.3
Total federal aid	14,161	16,208	+14.5
State grants	801	1,374	+71.5
Institutional grants	2,138	3,426	+60.2
Total aid	\$17,101	\$21,008	+22.8%

Source: *The Chronicle of Higher Education*, September 24, 1986, p. 28.

b:Balance



they do not. Students' prime consideration should be the effectiveness of the learning environment, and in this regard size need not be an impediment and may well be an advantage.

Technology has helped to remedy what once might have been real resource deficiencies. Any inadequacies in liberal arts library and laboratory facilities have been reduced considerably, if not eliminated altogether. The widespread availability of computerized library catalog, bibliographic, and database services has lengthened the reach of small college libraries.³

Similarly, the progress in computer technology, from time-sharing terminals connected to large mainframe computers to today's inexpensive microcomputers, has removed the disadvantages of the once-deprived small campus. More hands-on experience in the small-college laboratory offsets the wider availability of more expensive special-purpose facilities at larger universities. In any event, cyclotrons and sophisticated spectrometers are more essential to graduate research than to undergraduate teaching. Access to well-qualified faculty ceased to be a problem in the 1970s as the job market for professors shifted from shortage to abundance.

Nonetheless it must be admitted that a substantial number of liberal arts colleges are resting on weak financial bases. An axiom of institutional finance in higher education is that each institution raises what revenues it can from various sources — tuition, gifts, endowment income, and government — and spends what it receives. Consequently, wide differences occur in the availability of funds among institutions of higher education, and the spread for spending per student, the widely accepted measure of quality, is greater among liberal arts colleges than among public and private universities.

As many as 150 to 300 of the 750 liberal arts colleges may be seriously affected by inadequate finances and other resources. Roughly a quarter of all liberal arts colleges either have no endowment or one of negligible value. The average faculty compensation for a fifth of the small colleges is 20

percent less than the average for all four-year, degree-granting colleges, making recruitment and retention of competent faculty difficult. These colleges are obviously the most vulnerable institutions in terms of survival. If they are unable to acquire greater support from their constituencies, their loss need not be regretted.

Specialization

If they are to thrive, liberal arts colleges also must counter the effective marketing of highly specialized programs offered by large public and private universities. Specialization is not a new threat to liberal arts colleges; it began more than a century ago when the classical curriculum was slow to yield to the inclusion of science. Today universities have found specialized major programs to be especially attractive to career-sensitive students and have become quite persuasive in stressing the presumed advantages of those programs. Specialized private institutions and proprietary schools recently have begun to market their particular professional programs aggressively and successfully.

Liberal arts colleges have responded to the student interest in career preparation by expanding their professional offerings. One scholar observed that the number of pure liberal arts colleges, those institutions that awarded more than 80 percent of their degrees in the humanities, natural sciences, or social sciences, declined by almost a third between 1972 and 1981. Most of them became what he calls comprehensive colleges, awarding between 21 percent and 79 percent of their degrees in these fields.⁴ While the professional majors offered by liberal arts colleges are less concentrated than those found at large universities, there is concern within the community about the loss of emphasis on liberal arts at the undergraduate level and about whether the traditional liberal arts college can compete effectively in undergraduate professional programs such as business, teacher education, and nursing.

Specialized accreditation of undergraduate professional programs — as opposed to general institutional accreditation by regional associations — presents liberal arts colleges with a real dilemma. If they seek the accreditation to compete more effectively for students, the colleges may dilute the nature of their liberal arts education and distort their resource allocation in the process. The difficulty lies in the tendency of the accrediting groups to become highly prescriptive at the expense of other important components of undergraduate learning. To receive special accreditation a college might have to offer more teacher education courses, for example, which increases costs and may short-change the teaching staff in other disciplines.

The stronger colleges do not need specialized accreditation to attract students, the weaker ones cannot comply, and many others struggle to meet the numerous and sometimes conflicting requirements. Fortunately, only three of these agencies have significant numbers of members among liberal arts colleges — the National League for Nursing, the National Council for Accreditation of Teacher Education, and the National Association of Schools of Music. Interestingly, less than a handful of liberal arts colleges have sought accreditation from the American Assembly of Collegiate Schools of Business; lack of accreditation has not hindered the colleges from recruiting or placing their business students.

Inherent Advantages

Despite the effective marketing of specialized education by large public and private institutions, avoidance of overspecialization at the undergraduate level can be an advantage for liberal arts colleges. A balance between general and specialized studies can provide a solid base for students whose careers are likely to experience several sea changes and to whom communication skills are important. Many specific skills are best learned on the job or in graduate school, and good preparation should ensure that basic skills and background are not limited.

Liberal and professional studies need not be mutually exclusive, a point that continues to elude many curriculum designers. Both are necessary, as the noted British educator Sir Eric Ashby observed in 1958. "A case could be made . . .," he wrote, "for including technology among the ingredients of a liberal education. . . . Technology concerns the applications of science to the needs of man and society. Therefore technology is inseparable from humanism." The question is finding the proper balance between specialized and general learning.

Liberal arts colleges typically offer 20 to 30 major fields; most universities with more than 10,000 students offer 50 to 80 majors. Perhaps of greater significance is the degree of specialization within the major field. Major requirements constitute one-fourth to two-fifths of total course work at liberal arts colleges but as much as two-thirds to three-quarters of total course work in undergraduate professional schools at large universities. One premier undergraduate professional school at Indiana University prescribes only 14 percent of its curriculum in liberal arts subjects.

Undergraduates are easily lured by the argument that greater specialization in a particular field is required for job entry. The proportion of all baccalaureate degrees taken in business, for example, has doubled during the last 15 years to approximately a quarter of the total. To stay competitive, many liberal arts colleges now offer some instruction in business, often bootlegged under "economics" in those

institutions trying to maintain the appearance of liberal arts purity. However, a degree in business in the liberal arts schools is usually less concentrated by half than it is in the typical undergraduate business school, where 60–65 percent of the student's course work is in the field. The lesser concentration in liberal arts colleges may in fact stand students in better stead with future employers. Business leaders now indicate that they do not need as much specialization as business schools are requiring, especially when it comes at the cost of such essentials as communication skills, and they are beginning to send that message to their personnel offices.

This less concentrated approach to business studies may suggest a curriculum design for teacher education and other applied fields. Another approach has been developed by the Alfred P. Sloan Foundation. For the past five years, it has sponsored the exploration of a concept it calls "the new liberal arts," which familiarizes students with applied mathematics, technological literacy, and the computer. Pilot programs at 20 liberal arts colleges and several universities indicate that while students like the program, it will not be easily absorbed into the mainstream of liberal arts education. Liberal arts faculties will need to broaden their definitions of admissible studies if concepts such as these are to develop. Such innovation may be necessary for their institutions to remain viable in the closing years of the 20th century.

A better balanced curriculum increases the strong likelihood that a superior educational opportunity exists for the student at liberal arts colleges. As a generalization that statement needs qualification. Thousands of students obviously prefer and succeed in the more cosmopolitan environment that a university setting offers. In what sense then does the statement hold? Primarily in those instances in which liberal arts colleges afford more participation for students in the educational experience both in and out of classrooms and laboratories. Students appear to succeed most often — in terms of degree completion, graduate or professional school entry, and job placement — when they

*"... avoidance of overspecialization at the undergraduate level can be an advantage. . . .
A better balanced curriculum increases the strong likelihood that a superior educational opportunity exists for the student at liberal arts colleges."*

Table 4.
Annual Rates of Return on Endowments, by Size

Endowment size	Five Years	Ten Years
\$100 million plus	17.9%	14.2%
\$25 million-\$100 million	16.5	12.4
Under \$25 million	15.8	11.4

Source: The National Association of College and University Business Officers, reported in *The Chronicle of Higher Education*, January 7, 1987, p. 29.

have an opportunity to engage in a broad range of activities that both challenge and develop their abilities in several dimensions. They benefit from stimulating exchanges with faculty and other students in classrooms, in oral and written form, on the playing field, stage, or recital hall, in newspapers, clubs, and informal groups, depending on their interests and abilities. A student is more likely to be significantly involved in two or more activities in a liberal arts college than in a university ten times as large.⁵

Few educators agree on the superiority of any one classroom approach over others in a wide variety of contexts, but they do express mounting dissatisfaction with the once popular and traditional lecture format for teaching. A consensus is emerging that methods which involve students actively in their own education are more effective than passive techniques. Small classes do not guarantee effective learning, but they offer an environment where written and oral skills can get more attention and honing.

According to a recent Carnegie Foundation study, 80 percent of the liberal arts college students surveyed reported that they had no classes larger than 100 students. In contrast, 5 percent of the students at research universities said they had no large classes, while more than a quarter reported that most of their classes exceeded 100 students. That undergraduates, particularly first- and second-year students, get short shrift in large universities is both legendary and too often true. Teaching or graduate assistants, ever present where graduate schools exist, are not a feature of the delivery systems at liberal arts colleges.

Some information exists to compare outcomes in certain areas of study. A report published by Oberlin College found that between 1950 and 1980, 48 liberal arts colleges had a higher proportion of baccalaureate graduates who became Ph.D. scientists than either the Ivy League institutions or the 20 universities rated the best by the National Academy of Sciences. The liberal arts college rate was almost twice that of the Big Ten universities. In other studies, Elizabeth Tidball looked at baccalaureate origins of medical school entrants and natural science doctorates. She found that among the 277 institutions that accounted for 82 percent of the entrants, there were 80 liberal arts colleges, despite the fact that her cutoff point excluded many of the smaller colleges. Whether these kinds of relationships hold for less prestigious institutions and in others fields of study is problematic, but the positive indications in these examples are striking.⁶

Ensuring the Future

The task of trustees, faculty, and administrative leadership is to promote the advantages a college possesses or could reasonably acquire. Uniqueness in an individual institution's mission cannot be separated from the particular market or set of constituencies and resources available to that institution, no matter how green other pastures appear.

If a liberal arts college can demonstrate to prospective students perceivable quality advantages in its academic programs and the totality of its environment, its prospects are favorable. These qualities may relate to graduate or professional school admission records; recent alumni job performance; or the artistic, recreational, social, and related aspects of the college community. Other advantages may lie in the school's ties to an area or region, to a religious or ethnic constituency, or alumni family relationships. Lacking sufficient identifying features of this kind, an institution faces a difficult future.

Colleges might find it useful to identify their primary competitors. One Midwestern liberal arts college in transition from serving an area market to a regional one found that its largest competitor was a state university some distance away rather than the state university located in the same community as the college. This led to subtle changes in admission counselor preparation as well as in literature describing the college.

How significant price disadvantage becomes for liberal arts colleges will depend on their collective ability to persuade public officials to minimize the cost of higher education to taxpayers and to maximize student choice among institutions by providing aid based on need assessments rather than tuition subsidies regardless of financial means. In the meantime, colleges could increase the financial aid resources available to them by improving the processing of aid applications. At many institutions that effort is less than fully effective because of the time, detail, deadlines, and confusion involved.



*"If a liberal arts college can demonstrate
to prospective students perceivable quality advantages
in its academic programs and the totality of its
environment, its prospects are favorable."*

How well individual institutions fare will also depend on their ability to attract both current budget and capital gifts. Financial aid has almost kept pace with inflation in the last five years but only because state and institutional aid increased approximately 10 percent annually. Federal student aid has risen less than 3 percent a year since 1981. Private colleges may be hard put to maintain that rate of increase. Gifts to public universities from private sources have been rising faster than to private institutions for some time, exceeding gifts to private institutions for the first time in 1986.⁷

Furthermore, endowment funds are rather modest at most colleges; the average for the 400 institutions that reported to the Council on Financial Aid to Education in 1985 was \$15 million. In addition, most liberal arts colleges apparently do not manage their endowments as well as institutions whose endowments exceed \$100 million (see table 4). While the differences in the rates of return may appear small, the effect of compound interest magnifies powerfully over time. Many liberal arts colleges rely on local managers or banks for investment advice; fewer than 20 percent participate in the Common Fund, set up by the Ford Foundation in 1971 to help small colleges manage their investments.

Those liberal arts colleges that can build their endowments or otherwise increase private giving will improve their prospects. The college that can find and implement effective, cost-reducing breakthroughs in teaching will also be in a clearly advantageous position. Unfortunately, the organization of higher education often militates against the application of improved techniques of delivery. The use of upperclassmen, for example, to instruct weaker students in basic writing, language, and mathematical skills reduces the cost and faculty repetition involved in those teaching tasks while it enhances the instructing students' interpersonal and teaching abilities. Yet too often this kind of innovation is rejected out-of-hand because of the organizational problems it poses. Harvard President Derek Bok observed in his 1986 annual report: "Since academic institutions do not have leaders with the power to insist that

faculties adopt new techniques, new courses, or new curricula, the most promising innovations can easily languish unless there is some other effective force that causes them to spread." Liberal arts faculties would do well to heed the advice implicit in that statement.

In conclusion, liberal arts colleges need to learn how to market their advantages in a highly competitive arena, however distasteful that may seem. They should recognize that they are limited, or niche, providers that can readily appeal to a tenth of the students. They ought not try to offer every program that universities promote effectively. They need to identify their competitors and then design and present their own educational services accordingly. With wise public policy and good management, most liberal arts colleges can enrich higher education in the future.

1. Robert L. Geiger, *Private Sectors in Higher Education: Structure, Function, and Change in Eight Countries*, The University of Michigan Press, 1986, p. 185.

2. Larry L. Leslie and Paul T. Brinkman, "Student Price Response in Higher Education," *The Journal of Higher Education*, March/April 1987, p. 181.

3. The Illinois Library Computer System serves 27 academic libraries in the state, connecting small colleges to the nation's third largest academic library. There are gains in both directions because more than a third of the smallest collection's titles are not found in the largest collection, and four of the five smallest libraries are net lenders to the system. See Bernard G. Sloan, "Resource Sharing Among Academic Libraries: the LCS Experience," *The Journal of Academic Librarianship*, March 1986, p. 26.

4. Raymond F. Zammuto, "Are the Liberal Arts an Endangered Species?" *Journal of Higher Education*, March/April 1984, p. 184.

5. Alexander Astin, "Involvement: the Cornerstone of Excellence," *Change*, July/August 1985, p. 34.

6. David Davis-Van Atta, Sam C. Carrier, and Frank Frankford, *Educating American Scientists: The Role of the Research College*, Oberlin, May 1985; M. Elizabeth Tidball, "Baccalaureate Origins of Entrants in American Medical Schools," *The Journal of Higher Education*, July/August 1985, p. 385; and Tidball, "Baccalaureate Origins of Recent Natural Science Doctorates," *op. cit.*, November/December 1986, p. 606.

7. Data from the Council on Financial Aid to Education, reported in *The Chronicle of Higher Education*, May 13, 1987, p. 1.

Playing Russian Roulette

A DOZEN TIMES since World War II, in Korea, Berlin, Cuba, the Taiwan Straits, and the Middle East, American leaders have resorted to nuclear threats to deter Soviet or Chinese military actions. In his new book, *Nuclear Blackmail and Nuclear Balance*, Richard K. Betts uses declassified documents and other sources to examine those crises and to compare the decisionmaking processes of leaders who considered nuclear threats with the commonly accepted logic of nuclear deterrence and coercion.

Betts, a senior fellow in the Brookings Foreign Policy Studies program, concludes that the five presidents who used nuclear threats — Truman, Eisenhower, Kennedy, Nixon, and Carter — focused on the political stakes in the crises rather than the consequences of war; the territorial “balance of interests” rather than the nuclear “balance of power” drove their decisions. The balance of power was probably a more important consideration for the Soviets, however, encouraging them to back away from confrontation.

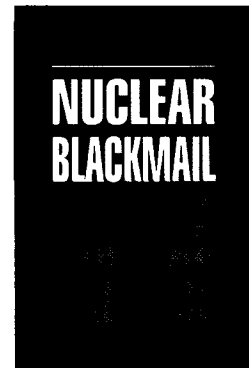
In recent years many strategists have assumed that American presidents during the first two decades of the Cold War could make nuclear threats without unreasonable risk because the Soviets lacked enough nuclear retaliatory power to inflict unacceptable damage on the United States. Betts’s study debunks that nostalgic notion, showing that even in the mid-1950s secret estimates of U.S. vulnerability did not give presidents such confidence.

The arrival of nuclear parity, Betts writes, “changed the behavior of [American] leaders less than is often assumed; it fostered anxiety about whether first-use threats remained practical but did not prevent resurrection of the tactic when a crisis comparable to former cases occurred.” For the Soviets, however, parity implied more freedom of action because Washington could not dare risk nuclear war as it had in the past.

Combining the evidence about how U.S. decisions to use nuclear threats were made in the past with analysis of why the Soviets reacted as they did leads Betts to an unsettling conclusion about the future. If a major crisis between the superpowers occurs, the incentives for U.S. leaders to resort to nuclear threats are likely to work in much the same way they did in the past. But the constraints that encouraged Soviet leaders to back down in the face of such threats are likely to work differently.

Nuclear Blackmail and Nuclear Balance

by Richard K. Betts
\$10.95 paper; \$28.95 cloth

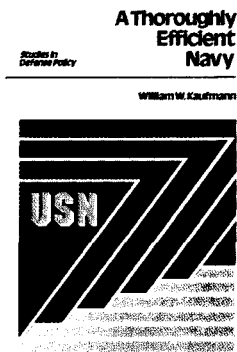


Naval Strategy Challenged

FEWER NEW SHIPS and a more realistic strategy than the Navy proposes would increase U.S. security and save \$120 billion over the next 10 years, according to William W. Kaufmann. In *A Thoroughly Efficient Navy*, Kaufmann challenges the Navy’s case for the so-called 600-ship fleet. The maritime strategy used to justify such an expansion “seems to smack more of nostalgia than of reality,” he writes, and bears no relationship to the forces that the Navy is likely to have available in the 1990s.

A Thoroughly Efficient Navy

by William W. Kaufmann
\$8.95 paper



Kaufmann contends that the Navy can meet any plausible combination of contingencies with 12 deployable carrier battle groups and the amphibious lift for 3 Marine brigades instead of the 15 carrier battle groups and amphibious lift capability for 4 Marine brigades sought by the Navy.

In a conventional war, Kaufmann says, attack submarines, minesweepers, patrol aircraft, and convoy escorts are the main elements needed to protect the sea-lanes between the United States and its allies, the most vital task facing the Navy. The Navy has enough submarines and aircraft for this mission, but it will be short of minesweepers, frigates, and destroyers, particularly as older ships need to be replaced. Kaufmann adds that funds saved from other areas should be used to modernize these capabilities, as well as to buy more fast sealift capability.

Although Kaufmann accepts the arguments for a triad of intercontinental ballistic missiles, bombers, and submarine-launched ballistic missiles (SLBMs), he recommends that SLBMs become "the backbone" of the U.S. strategic nuclear deterrent force. Not only will they be able to cover all targets in the Soviet Union, but the cost to deliver a second-strike SLBM will be lower than that of any other strategic system. Indeed, if the Pentagon were serious about its "competitive" strategies, says Kaufmann, it would cancel many of its inefficient nuclear programs and increase the Navy's role in both strategic and theater nuclear deterrence. Kaufmann is a consultant to the Brookings Foreign Policy Studies program, professor emeritus of political science at the Massachusetts Institute of Technology, and a lecturer at Harvard University's John F. Kennedy School of Government.

National Security at Reduced Cost

The 1988 Defense Budget

by Joshua M. Epstein

\$8.95 paper

IN THIS ANNUAL ANALYSIS of the defense budget, Joshua M. Epstein challenges the Reagan administration's priorities, identifies inefficiencies in its defense proposals, and offers an alternative defense plan that could save more than \$47 billion over the next two years without impairing national security.

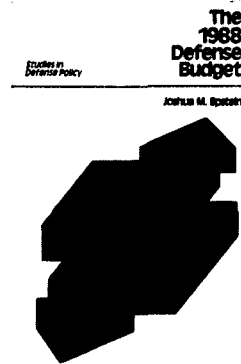
A senior fellow in the Brookings Foreign Policy Studies program, Epstein faults the administration for "exaggerated assessments of Soviet strength; adoption of strategies (especially naval) that may be infeasible and escalatory; excessive pace in programs of doubtful urgency; inefficient duplications of effort; and questionable priorities." In *The 1988 Defense Budget*, he suggests that funding for the Strategic Defense Initiative be held at fiscal 1986 levels. He doubts both the technical feasibility of a comprehensive strategic defense and the need to enhance deterrence by an early deployment of a partial defense, as the administration seeks. He would also cancel the antisatellite program and procurement of the stealth bomber. Epstein, however, does call for a "prudent level" of continuing research on SDI, as well as on stealth technology, and he supports the administration's funding requests for the Trident submarine and the B-1 bomber.

Epstein argues against the proposed procurement of 500 Midgetman intercontinental ballistic missiles costing \$45 billion; mobile, railroad basing for the MX missile; and any more than 50 MXs placed in silos. The United States already has enough retaliatory strategic missiles to strike the necessary Soviet

targets, he says, even in the event of a successful Soviet first strike. Moreover, Epstein believes that the administration's policies contradict each other in this area. The administration, he writes, "has abandoned SALT II, removing all constraints on Soviet offensive force levels, but is planning to deploy mobile ICBMs whose survival requires precisely that Soviet offensive forces be capped."

Another item Epstein proposes for cancellation is the \$1.4 billion request for two additional nuclear-powered aircraft carriers. They are not needed to protect the sea-lanes to possible war zones, he contends, nor would they likely succeed in the key offensive missions anticipated in the Navy's "maritime strategy." Epstein does oppose any significant withdrawal of U.S. troops from Western Europe. Although he does not believe that the Warsaw Pact is overwhelmingly superior to NATO in military strength, as many people believe, he argues that a reduction of as many as 100,000 American troops, as others have suggested, would pose political problems with U.S. allies and greatly weaken NATO's conventional capacity to defeat an attack without resorting to nuclear weapons.

Attempts to change course in defense spending are extremely difficult, Epstein cautions, because of the "backlog of built-in spending" commitments from past years, particularly for weapons procurement, research, development, and construction. "Even if defense appropriations (new budget authority) were zero for the next five years, national defense spending would total \$200 billion . . ." he writes. Epstein warns that the readiness of U.S. forces will suffer badly if defense spending is heavily cut but major strategic and naval procurement and R&D programs remain intact.



Friendly Persuasion

REALISTICALLY, there is no viable way in which Soviet control over Eastern Europe can be loosened by force "either through Western efforts to 'roll back the Iron Curtain' or through popular rebellions contrary to Soviet will." Nonetheless, the Soviet empire has been gradually eroding, and the West should take concerted action to influence the course of that erosion, write the authors of *Eroding Empire: Western Relations with Eastern Europe*.

Despite severe setbacks, such as the Soviet invasion of Czechoslovakia in 1968, the East Bloc generally has moved in the direction of increased autonomy within the Soviet system. These changes have occurred as the ruling communist parties display their own forms of nationalism and respond to popular discontent with their poor economic and social performance, as attitudes shift from one generation to the next, and as new leadership emerges. In this environment, the West has genuine influence as a model of political and economic success. Yet Western Europe and the United States generally pay the East Bloc countries little attention except in times of crisis — despite their immense geopolitical importance. West Germany is the one exception because its Ostpolitik requires closer ties with East Germany.

Lincoln Gordon and his coauthors review the attitudes, interests, and policies of the major Western countries toward the East Bloc countries of Poland, Czechoslovakia, Hungary, East Germany, Romania, and Bulgaria since World

Eroding Empire: Western Relations with Eastern Europe
by Lincoln Gordon with J. F. Brown,
Pierre Hassner, Josef Joffe, and
Edwina Moreton
\$11.95 paper; \$31.95 cloth



War II. Although the United States and its European allies generally agree on the long-term objectives of securing more freedoms and better living conditions in the East, differences exist in near-term goals, policies, and tactics. The West's policies toward the bloc have ranged from accommodation to Soviet control to efforts to encourage the transformation of the imperial system to attempts to hasten the dissolution of Soviet power. Within the West, the authors say, agreement is possible only in the middle of that spectrum — "transformation with less accommodationist tendency on the European side and less dissolutionist tendency on the American side."

The goal should be greater convergence on medium-term objectives but with wide flexibility on tactics and "a division of labor" that takes into account Western differences in historical relationships and economic interest in Eastern Europe. In addition to positive engagement with East European governments, the West "should also deal directly with peoples, helping through the latter to push the regimes toward liberalizing reforms and greater foreign policy autonomy."

Gordon, a guest scholar in the Brookings Foreign Policy Studies program, designed and directed the study, which was jointly sponsored by Brookings and the Hudson Institute. J. F. Brown was director of Radio Free Europe from 1978 to 1983. Pierre Hassner is an expert on French foreign policy and international affairs. Josef Joffe is a foreign editor and columnist for the *Süddeutsche Zeitung* in Munich, and Edwina Moreton covers Soviet and East European affairs for *The Economist* of London.

Women's Work

Gender in the Workplace

Edited by Clair Brown and
Joseph A. Pechman
\$12.95 paper; \$32.95 cloth



BETWEEN 1920 and 1980, nearly 60 percent of all working-age women entered the paid labor force, but women's wages remain at about 60 percent of men's wages, and women are predominantly employed in lower-paying jobs with fewer chances for promotion. This volume, *Gender in the Workplace*, examines many of the economic and social forces that have propelled women into the work force and determined their treatment on the job.

The eight papers, written by twelve distinguished social scientists, explore the changing consumption patterns of families as more women entered the work force; occupational segregation by sex in a large insurance company, in bank telling, and among part-time workers; subcontracting as a method of reducing women's wages; the effect of unionization on the male-female wage gap; enforcement of child support awards to improve the economic condition of single mothers; and the use of subsidies to encourage companies to meet gender-based employment quotas.

Gender in the Workplace was edited by Clair Brown, an associate professor of economics and associate director of the Institute of Industrial Relations at the University of California at Berkeley, and by Joseph A. Pechman, a senior fellow in the Brookings Economic Studies program. The book grew out of a conference in November 1984 sponsored by Brookings and the Committee on the Status of Women in the Economics Profession.

Understanding Global Financial Interdependence

OVER THE PAST two decades, international banking grew more than twice as fast as international trade and more than two and a half times faster than economic output. This dramatic growth in cross-border and cross-currency financial transactions has tremendous benefits and potentially great pitfalls. International financial activity permits a more efficient allocation of world resources than would exist if such activity were prohibited. But unchecked financial activity could cause adverse economic developments and, in extreme cases, threaten economic stability.

In *International Financial Intermediation*, Ralph C. Bryant presents a lucid overview of why the internationalization has occurred and analyzes the policy consequences. To avoid pitfalls, he proposes gradual but deliberate evolution to a cooperative international regulatory effort from what is now a predominantly national effort to oversee financial activity. Acknowledging that serious impediments to such cooperation exist, he nonetheless urges governments and analysts to work to develop a set of regulatory and tax standards based on "criteria as objectively formulated as possible." He also urges that policies be designed specifically to manage financial interdependence.

A senior fellow in the Brookings Economic Studies program, Bryant was formerly director of the Federal Reserve System's Division of International Finance.

International Financial Intermediation

by Ralph C. Bryant

\$9.95 paper; \$26.95 cloth



Hidden Costs of Federal Loan Programs

THE FEDERAL GOVERNMENT has become the nation's largest lender; loans issued or guaranteed by federal agencies totaled more than \$700 billion at the end of 1986. Yet these programs, designed to give credit assistance to homeowners, students, farmers, and small businesses, are not very well understood even as they grow more controversial. Continued depression in the farm economy threatens the well-being of the farm credit system, while the subsidy costs in other loan programs continue to grow and add to the budget deficit. Yet no system exists to evaluate the effectiveness of and need for these programs and to assess the costs they impose on taxpayers.

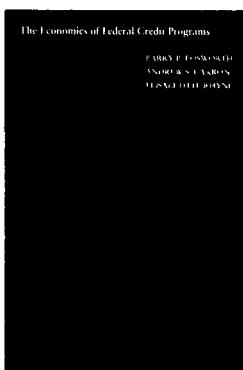
In *The Economics of Federal Credit Programs*, Barry P. Bosworth, Andrew S. Carron, and Elisabeth H. Rhyne explain the rationales underlying federal credit programs, their costs, and their likely economic effects and examine loan programs in four areas — housing, education, small business, and agriculture — that demonstrate the diversity of the policy issues.

They conclude that policymakers should be most concerned about those loan programs that provide a subsidy. Most such subsidies are inadvertent; the government has failed to raise loan rates in step with market interest rates.

The Economics of Federal Credit Programs

by Barry P. Bosworth, Andrew S. Carron, and Elisabeth H. Rhyne

\$9.95 paper; \$26.95 cloth



Inadvertent or not, the authors find loan subsidies to be a comparatively inefficient way to alter resource use or transfer income to specific groups in society. And because the subsidy costs are indirect, it has been difficult to focus on the original objectives. Lack of accountability, they write, has allowed some of the loan programs "to expand beyond their original charter to extend subsidized credit to politically powerful groups."

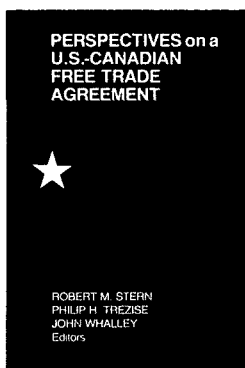
Noting that existing budgeting and accounting practices for these programs "stand in sharp contrast to those required by government regulation of private financial institutions," the authors recommend that the federal government operate its loan programs more like a bank would. They propose that loan programs should be moved outside the budget and administered by quasi-private corporations, and that all subsidy costs should be paid and reported as a budget outlay at the time the loans are made.

Bosworth is a senior fellow in the Economic Studies program at Brookings. Carron is a vice president of First Boston Corporation. Rhyne is a project officer for the U.S. Agency for International Development.

Prospects for a Bilateral Free Trade Treaty

Perspectives on a U.S.-Canadian Free Trade Agreement

Edited by Robert M. Stern, Philip H. Trezise, and John Whalley
\$12.95 paper; \$32.95 cloth



FOR MORE than a century, Canada and the United States have periodically discussed a bilateral free trade treaty. Each time, one or the other country has backed away because of potential political consequences. In the meantime, despite numerous trade barriers erected on both sides of their common border, Canada and the United States have developed the largest bilateral economic relationship in the world.

Since May 1986 the two nations have once again been engaged in formal negotiations on a mutual free trade agreement. The stakes and objectives are very different in each country; disputes have already occurred over specific trade issues. Yet a successful outcome would be of historic importance for international trade. In *Perspectives on a U.S.-Canadian Free Trade Agreement*, scholars and trade specialists from North America and Europe look at the prospects for a bilateral free trade treaty from a variety of viewpoints. One contributor offers a new model for assessing the impact of a free trade agreement on the Canadian economy. Another suggests that a North American free trade agreement could be a starting point for even wider trade liberalization. Among the other issues discussed in this volume are the application of U.S., Canadian, and international law to the negotiations; prospects for direct foreign investment; and free trade within specific industries: automobiles, steel, and agriculture.

Robert M. Stern is professor of economics and public policy and head of the international program of the Institute of Public Policy Studies at the University of Michigan. Philip H. Trezise is a senior fellow in the Foreign Policy Studies program at Brookings. John Whalley is William G. Davis Professor of International Trade and director of the Centre for the Study of International Economic Relations at the University of Western Ontario, Canada.

The Center for Public Policy Education at Brookings: Selected 1988 Programs for Corporate Executives

☐ *The World Management Program* *February 28–March 19, 1988*

This new and innovative management education program is designed for corporate managers of major multinational companies. The three-week program is held in Washington and New York; Brussels, Dusseldorf, and Paris; and Tokyo. In each region, the focus is on relevant issues affecting trade and global competitiveness, comparative patterns of business management philosophy and practice, industrial policies, and government-business relations. The program is conducted in cooperation with the Paris Chamber of Commerce and Industry and the Japan Productivity Center.

☐ *The Tokyo Seminar* *May 29–June 3, 1988*

The Tokyo Seminar provides a firsthand exposure to the nature of business-government interaction in Japan's economic decision and policymaking processes and emphasizes opportunities in forging long-term business relationships with Japan. It is conducted in partnership with the Japan Center for International Exchange (JCIE), founded and directed by Tadashi Yamamoto, who also serves as the Japan Executive Director of the United States-Japan Advisory Commission established by President Reagan and Prime Minister Nakasone.

☐ *The European Seminar* *June 19–24, 1988*

The European Seminar, held in Paris, offers an intensive review of the changing business conditions in Europe and substantive discussions of the underlying economic, political, and social trends that affect these conditions. The program features sessions with high-level government and business leaders in Europe about the changing role of the Common Market institutions, European technology and industrial policies, the state of European entrepreneurship, the status of Japanese investment in Europe, and the prospects for U.S.-European economic cooperation.

☐ *Conferences on Understanding Federal Government Operations*

These six-day conferences, held throughout the year in Washington, D.C., provide an intensive overview of federal policymaking:

- On-the-spot exposure to "official Washington," including on-site meetings with administration representatives, members of Congress, and other policy experts.
- Examination of key policy problems facing the United States today, with emphasis on issues of mutual concern to business and government.
- A unique opportunity to participate in the federal policy process through informal dialogue with Washington decisionmakers.

Name _____

Title _____

Company _____

Address _____

City/State/Zip _____

Phone _____

☐ Please put me on your mailing list to receive detailed information about the programs checked.

Send to:
Mr. David Fingerman
Center for Public Policy Education

The Brookings Institution
1775 Massachusetts Avenue, NW
Washington, D.C. 20036
(202) 797-6162



1775 MASSACHUSETTS AVENUE N.W. WASHINGTON D.C. 20036

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED